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Good News: Industry Shows Growth

Some days it's easy to be all doom and gloom in this business, what with the tooth-and-nail-force competition, dramatically shrinking margins, sudden consolidations and shake outs, and the veritable roller coaster ride of technological innovations, successes and flops. But there's at least two sides to every proverbial coin.

Take the shift of the Internet into the mainstream over the last few years. Yes, software companies are selling products directly to users over the 'Net. And yet, some consumers are placing orders directly with on-line vendors of hardware, and e-commerce retailers who have the overhead of a physical location. But as "e-tailing" grew in popularity, modern sales skyrocketed. This year, Evans Research Corp. says Canadians will buy 2.6 million modems, up from 2.3 units in 1996.

Home users had yet another reason to purchase a computer. Corporations bought Web servers and consulting services. And while many businesses are still struggling to actually make money on the Web (some are doing OK), a great many people have done very well setting up clients for the Internet, providing hardware and software, as well as Web site design and hosting services. Moreover, the Internet means better communication with your own customers.

Buying Is Up!

Canadians' demand for information technology products and services grew 12.1 per cent in 1996 over 1995, according to International Data Corp. (Canada) Ltd. And preliminary forecasts suggest IT buyers' demand will increase another 11.2 per cent this year. "It's good news," said Paul Kennedy, president of Toronto-based IDC Canada.

Corporations are spending well, particularly on things like network integration, he said. Moreover, the penetration of computers into Canadian homes is starting to slow down, having reached about 41 per cent, IDC figures report. (A.C. Nielsen says 46 per cent.) Perhaps the remaining homes will open up to some of the Internet devices or Network Computers that have been so hyped. If parents can pay an incremental fee to let Junior access the Web from a video game device or low-cost basic terminal-type unit, there will be interest. Indeed \$800 is widely held by parents to be

the price point at which impulse-type purchases happen.

New Markets

The most powerful computers are becoming ever more invisible. Our Lab Test this month checks out some of the most powerful PCs on the market — 266MHz or 300MHz Pentium II-based systems (page 38). Indeed, that hefty hardware will enable all kinds of new functionality and markets, including videoconferencing, which is modestly, our cover story this month. (Please see *The Electronic Eye*, page 30, by Associate Editor Jeff Evans.)

Also this issue, a special feature on the Canadian computing channel by Paul Lantz. (Please see "Madely Waters" page 22), examines evolving in the channels as players look for new opportunities and better ways to deliver product to market. Kennedy says getting product to market is still a problem for many vendors and resellers, hence the interest in such practices as build-to-order. He said manufacturers like IBM and Compaq are making "someone else do it, closer to the customer." Another big problem area is Canada's still afflictive computer recycling, said Kennedy.

Get With The Season

As hard as it is to believe, we're pushing up on the busy Christmas retail season. Check out David Rabin's "Serve Up a Profitable Holiday," (Page 36), for useful tips on having the choicest possible selling season in a retail environment. If you run a computer store, there will soon be disheartened shoppers walking by your window looking for gift ideas. So provide them! Never miss out on an opportunity to get people into your store. But you also need to offer the products they actually want to buy. Always have knowledgeable staff available to provide useful suggestions and support. And make it easy for customers to actually make the purchase! (Think payment plans, full credit card support, available products and tellers, and delivery/installation services, for example.)

What are your thoughts on the health of the industry in 1997? How do you feel about the business environment heading into 1998? Drop me a line at greg@cancomp.ca. MF

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Editor

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Sun sues Microsoft over Java, seeks financial damages

(NB) — Sun Microsystems' JavaSoft Division has announced a suit against Microsoft Corp., charging trademark infringement, unfair competition, breach of contract, and other contract violations in the implementation of Java in Microsoft's Internet Explorer (IE) 4.0 browser. Sun is also seeking injunctions against Microsoft, and financial damages.

During a teleconference, JavaSoft division president Alan Baritz charged that, over the past six months, Microsoft has "publicly disavowed" its contractual responsibility for the full implementation of Sun's Java Developers Kit (JDK), a responsibility he said is borne by Microsoft and 156 other Java licensees.

Baritz contended that, with the release of

IE 4.0, Microsoft moved beyond engaging on "the spirit of the law" to violating "the letter of the law."

Specifically, Microsoft failed to include two key interfaces — JNE (Java Native Messaging Interface) and JNI (Remote Method Invocation) — that Sun has included in the JDK reference model, according to Baritz.

But "far, far worse" is Sun's finding that Microsoft also "deceptively altered key class libraries, (so that) developers will believe they are writing cross-platform applications, when they are (really) writing (what) will run only on Microsoft (Windows)," asserted the JavaSoft president.

Sun uncovered these discrepancies during compatibility testing of the IE browser, according to Baritz.

Sun, he said, is also seeking several injunctions against Microsoft, including an injunction preventing Microsoft from using the Java logo, along with financial damages.

Sun also plans to withhold Java technology from Microsoft pending resolution of the suit, according to Baritz. But Sun's overriding goal is "to get Microsoft back into compliance," the JavaSoft chief told the press.

Windows 95 will offer Internet at TV speeds

(NB) — Microsoft Corp. executives said WavePhone's WaveTop technology is just the beginning of a new Internet experience at TV speeds included as part of Windows 95. WaveTop will allow Windows users with "TV boards" to receive a wide range of free, custom Internet content, free of Internet connections and standard speed problems.

"This announcement is a significant step forward in delivering bandwidth to home users," claims Phil Hoiden, Microsoft's manager of Windows product group. "What users will see with this technology is Internet content delivered at speeds much like what they see on TV today."

WavePhone uses the broadcast signals of PBS National Datacast Inc.'s 264 PBS member stations. The company's technology allows Internet content to be "plugged" between standard PBS television programming. Called "vertical blanking intervals" (VBI), the spaces are filled with Internet content which becomes part of the broadcast signal. Any computer with a TV tuner board and Windows 95 can receive WavePhone's Internet content.

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Digital camera products continue to multiply, now boasting higher resolutions

At the recent Comdex/SCB show in Montreal, one outstanding trend was the continuing proliferation of new models of digital cameras. Many major manufacturers, including Epson, Agfa and Sony, had new cameras on display (Phonetic declined to show its new digital camera at the show).

At this stage, most of the attention has shifted from the original VGA resolution cameras (480 by 640 resolution, with about 300,000 pixels per image) to a new generation of cameras which typically boasts image resolution of up to 1,280 by 960 pixels, resulting in "megapixel" images (a million or more pixels). Kodak was the Canadian leader in creating this market segment with its EC1310 camera, which debuted in the spring of 1997 but at Comdex both Epson and Agfa highlighted their new high resolution digital camera offerings.

Epson's new PhotoPC 600 features 1,024 by 768 (XGA) resolution, using Epson's ColorTrue in-camera processing technology to create accurate, realistic color values. The PhotoPC 600 has a built-in, two-inch LCD

monitor, and has a Direct Print option which allows users to directly connect the PhotoPC to an Epson Stylus Photo printer, using a \$99 Epson Stylus Photo Direct Print Kit, which consists of software, a PhotoPC 600 AC adapter and special serial cable. To enable larger numbers of pictures to be stored on the PhotoPC 600 camera,

CompactFlash storage cards with up to 32MB capacity are also available. The PhotoPC 600 also offers NTSC composite video output, for displaying pictures directly from the camera to a TV monitor or video projector, or for recording onto videotape.

The PhotoPC 600 has an estimated street price of \$1,099.

Agfa included its Canadian introduction of the ePhoto 1280, a 1280 by 960 pixel resolution digital camera, along with several other major digital imaging product releases at the Comdex/SCB '97 show. The ePhoto 1280, priced at \$1,199, is a very nicely designed digital camera with a varifocal Flashlink 3X optical lens, a two-inch color LCD, and sophisticated PhotoGenie image processing technology.



Agfa ePhoto 1280

Gaming platforms are hot

It's a computer game? No, it's a video game! Computer game? Video game? It's two, two, two gaming markets in one!

For over a decade, there have been two consumer markets for interactive entertainment software: the video console market (Nintendo, Sega and more recently, Sony), and the personal computer market (mainly MS-DOS/Windows), but also, to lesser degrees, Apple Mac, Apple II, Commodore 64, Atari and Amiga.

In the 1997 holiday market, competition is setting into two camps. MS-DOS/Windows 95, and 64-bit "next generation" video consoles. Surprisingly, though, both of these two radically different platforms (yes — the high-powered, general purpose multimedia family PCs, and the tiny, single purpose console that packs onto the family TV set, are increasingly being found in the same households. On the personal computer side, 1997 has seen a large vote move by the PC games publishing industry to the Windows 95 operating system, finally giving up on MS-DOS as the preferred operating system for high performance PC games. The rapid increase in the power of 1997's Windows PCs, with Pentium MMX

technology, cheap RAM, and high-speed 2D and 3D graphics acceleration has combined with the games oriented features of Windows 95 to make the PC a very powerful gaming platform. As Don Myles, head of IBM Canada's PC operation recently commented, "The application driving high performance PC technology is 3D games like Doom."

On the video game side of the market, Nintendo has made the biggest splash in the Canadian market. The Nintendo 64 system has sold about half a million consoles as its first six months in Canada, the most successful launch of a computer games system in history. Sony's PlayStation has also sold several hundred thousand units, and the Sega Saturn, though lagging behind the other two major players, has also seen considerable success.

Sony of Canada Ltd. showed two new digital camera models at Comdex, the DSC-F1, which comes with a 1.8-inch LCD screen with built-in 4MB flash memory, and high-speed wireless image transfer capability, as well as serial cable or NTSC composite video output. The new Sony Digital Music camera makes picture saving even easier, by allowing the user to save images directly to a floppy disk, which can then be transferred to a Mac or Windows personal computer. Other features of the Digital Music include 10X optical zoom lens, and pre-programmed settings for different lighting conditions, to help ensure the highest quality photos. There are also several in-camera photo image processing options: monochrome, sepia, negative art, and pastel.

With the new, higher resolution and highly featured digital cameras costing in the \$1,000 to \$1,300 range, there is likely to continue to be a strong demand for the older, low resolution models, which now cost as little as \$450. However, the new hi-res cameras are sure to begin declining in price and increasing in market share in 1998.

For more information, contact Sony of Canada Ltd. at (416) 499-1414 or <http://www.sony.com>, Epson at <http://www.epson.com> or 1-800-465-7366; or Agfa at <http://www.agfa.com>, or (416) 241-1110.

Although the PC and video game software sales channels tend to be separate, the end-users overlap a lot. Many families find that a video game machine, at less than \$300 for the hardware, is a cheap way to add additional computing power to the household, freeing up the "real" computer for home office, educational and Internet use. The new video games machines, particularly the Nintendo 64, have speed and 3D graphics performance that equals or better even a high end Pentium MMX PC. Many PC software publishers use the hottest titles on the games consoles as the benchmark to judge the performance of their latest computer titles against "Better than Nintendo 64" is the promise, usually exaggerated boast of the PC games publisher in the 1997 Christmas season.

Canadian groups prepare for research infrastructure

(NB) — The Canada Foundation for Innovation (CFI), a government-backed corporation, and the Canadian Network for the Advancement of Research, Industry and Education (CANARIE) Inc., a consortium of private firms, universities, and the federal government, have announced a joint project to seek ways of developing a new information infrastructure to support research. Guided by a steering committee made up mostly of academics, the group will hold five regional workshops in the next few months to discuss research issues, then put together a set of recommendations to CFI and CANARIE. The focus will be on advanced networking infrastructure to support research.

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SCIB '97 show highlights upbeat Quebec IT market

Comdex/SCIB '97 held at the Palais des Congrès in Montreal from Oct. 7 to 9, provided a showcase for much of the latest and greatest that the Canadian high-tech industry has to offer.

It also served to demonstrate the growing importance of computer and telecommunications technology as an engine of growth in the Quebec economy. At a time when Quebec is struggling to overcome

the persistent drag on business confidence caused by the national unity question, (in Montreal) signs of recent economic progress at odds by sale with numerous "for rent" and "for sale" signs, the information technology industry is a bright light. The 1997 SCIB show featured major product releases from international vendors such as Epson, Xerox, Agfa, and Sony as well as from Quebec-based firms such as Prime and Makovick. Veterans observers commented that under the Comdex banner SCIB has consistently improved in both the quality and quantity of attendees and exhibitors in recent years. Exhibitors such as Xerox, Novell, Clarys and Adobe showed their latest products to good crowds, and most of the exhibitors CCM talked to indicated that interest from both resellers and end users was strong.

Typically, when major computer industry events stand up to make presentations at a trade show, their main fear is that Murphy's Law will conspire to cause the presentation software or Internet technology they are

using to fail, at the most embarrassing time. At Montreal's SCIB, however, it turned out that the principal problem was political and linguistic in nature. The first keynote speaker, Stéphane Vallières, vice-president of information highway and multimedia for Bell Canada, was scheduled to present his remarks in both French and English. He delivered a fine speech in French only, describing in glowing

terms the reality and the potential of using networking, the Internet, and videoconferencing for applications as diverse as banking, telemedicine and education. Unfortunately, technology for communicating a translated English version of his remarks for English attendees and journalists was not deployed for this event, leaving part of

the audience in the dark about what had been said. The second SCIB '97 keynote, delivered later that day by Comdex founder and CEO Michael Cowpland in English only, similarly failed to provide a French version for the bilingual French attendees. And Cowpland managed to refer several times to French as a "foreign language" when asked a question about French-Canadian versions of Comdex software titles.

But SCIB '97 showed that Quebec is a world class creator of, and market-place for new technology, where the partnerships between government, manufacturers, end-users and the reseller community are serving to make Quebec a successful competitor in the new national and global economies.

Yahool acquires Four11, begins free E-mail service

(NB) — Yahoo! Inc., operator of several major on-line guides to the Internet, has signed an agreement to buy Four11 Corp., a privately held company that offers on-line directory services and operates the RocketMail free E-mail service. As a result of the deal, Yahoo! is immediately launching its own free E-mail service, Yahoo! mail, based on RocketMail technology.

Yahoo said it will use a US\$5 million charge associated with the deal in its fourth quarter results. It said it expects the deal to be completed in the fourth quarter after a number of conditions have been met.

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Canadian university owns 'software engineering'

(NB) — Faced with opposition from professional engineering societies to its use of the phrase "software engineering" in a course description, Memorial University of Newfoundland has taken out a Canadian trademark on the phrase.

Memorial was granted the trademark in July, university spokesperson Peter Morris said. He said the university does not intend to be heavy-handed in enforcing its trademark rights, but "in essence, Memorial University owns the phrase."

Obtaining the trademark was a tactical move by the university in a dispute with the Society of Professional Engineers and Geophysicists of Newfoundland and the Canadian Council of Professional Engineers, which have applied to the Federal Court of Canada to stop Memorial using the term "software engineering" to describe a program given by its computer science department.

Debbie Abbott, communications manager for the Canadian Council of Professional Engineers, said "the use of the term 'engineering' is strictly within the domain of the registered professional engineering organizations." The association are concerned that principles of professional engineering might

ITC ruling may lead to NEC Canadian supercomputer centre

(NB) — Stung by the U.S. International Trade Commission's decision that it is dumping supercomputers, NEC Corp. is thinking of setting up its own supercomputer centre to offer services to customers in the U.S. from outside the country's borders. Canada appears to be high on the list of possible sites.

In late September, the ITC ruled by a three-to-nothing vote that NEC and two other Japanese supercomputer makers — Fujitsu Ltd. and Hitachi Corp. — have been selling supercomputers in the U.S. market at well below cost. The government commission imposed a 434 per cent antidumping duty on NEC, and tariffs of different amounts on other Japanese supercomputer makers. The ruling resulted from a complaint by Cray Research, a subsidiary of Silicon Graphics Inc. and a maker of supercomputers.

The decision "effectively closed the U.S. market to foreign supercomputers," said Bernard Adams, a spokesperson for NEC's U.S. subsidiary HNSG Supercomputers, said.

So, Adams said, NEC and HNSG are reviewing their options and are looking seriously at setting up "some kind of data centre somewhere outside the United States." Such



not be applied appropriately in courses given outside a school of engineering, he said.

Morris, however, described the engineers' position as "an unnecessary intrusion into university governance." He said universities across Canada are backing Memorial's position.

It is not clear whether the case will actually go to court or be settled otherwise. "We could be headed to court," Morris said. "I'm not sure that we are headed to court."

The dispute over the use of "software engineering" to describe software design and programming was a long-running one. In Canada and elsewhere, engineering associations have repeatedly objected to the term's use.

a centre would be able to sell capacity on NEC supercomputers to customers in the U.S. and elsewhere.

No decision has been made on whether to open such a centre or where it would be, Adams said. However, he agreed that Canada is high on the list of possibilities, and would be an ideal location for reaching the U.S. market.



Toronto is the home base for branches of most multinational technology companies operating in the country and thus an obvious site. However, Montreal might also be a contender as NEC already has a small supercomputer business there, focused on supporting and maintaining its NEC supercomputers that belongs to the Atmospheric Environment Agency, Canada's weather forecasting agency.

Supercom signs Matrox deal

Matrox Graphics Inc. has announced a manufacturing and distribution agreement with Supercom Canada.

Supercom will integrate Matrox products into the Truarc Brio, DTK and Acer Open systems manufactured by Supercom.

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Sea Change will distribute SmartGate security

A recent agreement will see Sea Change Corp. distribute the V-One Corp. SmartGate client-server security product in Canada.

The product combines authentication technology with encryption and application-level access control. Sea Change claims the product can be deployed to an unlimited number of users in just seven minutes, using the product's on-line registration/dynamic credential process.

Filbirtion scores large pen contract — Cheers!

Midland, Ont.-based mobile pen computing company, Filbirtion Marketing Corp., has won a contract with Brampton, Ont.-based Barch-Martin Canada Inc., a provider of sports, beer and wine.

The half-million-dollar contract replaces a paper system and involves the use of Filbirtion's pen-based WinTrac system for Barch's sales reps. They'll be able to access customer accounts and product information on the road, and take inventory, record orders and transmit orders via a modem.

SAP Canada active, under new president

There's plenty cooking at SAP Canada Inc. under the leadership of new president Robert Benschoten, who stepped up to the job this summer, after serving as vice-president of operations for SAP SAP Canada is a subsidiary of Germany's SAP AG, which produces high-end client/server-based business applications for use in corporations and mission-critical environments.

Benschoten's new position necessitated a relocation to Toronto from Montreal, but Montreal now reports an SAP gap, as that city is hosting a new research and development centre which will initially be staffed by 10 employees who will work on Canada-specific product, customization and post-contract support, Benschoten, during a recent stop in Calgary. He said the Montreal R&D centre will also seek to get a world mandate for certain SAP product development.

SAP has also opened a call centre in Montreal, N.B., for bilingual toll-free customer support, employing another 10 people initially. Benschoten and then-premier Frank McKenna were instrumental in personally persuading SAP to consider his province's technical and human resources for the SAP Canada Help Desk.

Those jobs are part of 80 new jobs SAP plans to create before year-end. The current staff total is 125, up from 100 employees, as of Jan. 1, 1997. "We have a definite strategy for a much

stronger commitment to our customers," said Benschoten. The three focuses for the company are people, product and processes, he said. A key part of that vision is Accelerated SAP (ASAP), in which 80 per cent of installations are now completed in less than six months. "This is good news." He said Sony Canada's SAP implementation took seven months, and its implementation at the Canadian Space agency was completed in eight weeks.

Particular focus industries for SAP include the public sector, oil and gas, utilities, telecommunications and healthcare.

Former SAP Canada president Bryan Plag is busy as the new president of Pandoc (http://www.pandoc.com) — a joint venture between SAP America, Inc. and Intel Corp., offering electronic commerce solutions to business.

SAP's Canadian Certified Business Solution providers include: FitTech Services, Optimum Software Solutions, Promosys Inc., Enrol & Young, Anderson Consulting, Deloitte and Touche, and OmniaLogic.

Also in Calgary, at the DocuWorld '97 show in October, Xerox Canada Ltd. said it had teamed up with Ottawa's JetForm Corp. and BGR Consulting, of Toledo, Ohio, to introduce a solution for SAP customers looking to create "imperfect customer-focused documents." The technology enhances the standard SAP layout sets by adding field tags to the data, says Xerox. The standard result is to allow formatting adjustments such as adding logos, boxes, shading or borders, to be made without SAPScript programming. ■



Photo courtesy SAP Canada Inc.

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Ultra DMA 6 (MB/sec)					22.3
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Waves At Apple Ripple Through Channel



by David Rosen

Now that Apple has ended its cloning "experiment" by requiring the users of Power Computing, many resellers expect more changes in the channel. With the Mac clones out of its way, what's next in Apple's bag of tricks? Only Steve Jobs knows — and he's not talking, at least not yet. Meanwhile, Apple U.S. is urging its retailers to make special areas within their stores devoted solely to Apple products. In addition, the company reiterated its commitment to doing business only with retailers who demonstrate a serious focus on Apple products. Some see that as lower sales potential combined with increased effort and expense. It doesn't take a Galileo to figure there's turmoil in Apple's reseller channel.

Fallout — Apple Style

The recent (and most noisy) round of channel problems really started in 1990 when Power Computing and Radius were awarded the first Mac OS license.

Although Radius later sold its license to UMAX Systems, Power Computing started shipping its first Mac clones in May 1995. About a year later, the company's sales began to take off. Other licensors of the Mac OS were added but none had the success of Power Computing.

To hear Apple's side of the story, Power Computing succeeded only by establishing unfair Mac sales, not in expanding the Macintosh market as was originally intended. By the time Apple took action, the company estimated that Power Computing was shipping US\$400 million in product per year. In fact, according to independent research group Dataquest, Power Computing alone accounted for nearly 10 per cent of the entire Mac market. This was bad not only for Apple but also for its resellers, since Power Computing had grown its business using a direct sales model. Things got worse for Apple by the end of the second quarter of this year, in which the company says 23 per cent of all Macs sold were clones. What's worse, many of these computers were high-end systems, such as ones destined for Apple's profitable graphics, video and publishing markets. Although some Mac clones such as Motorola used the

existing reseller channel, most of the clones were sold directly, causing more channel difficulties. With these high profit machines continuing to leave the channel, many Apple resellers added other product lines to stay profitable.

For over a decade Toronto-based Elm Street Applied had been an Apple-only storefront reseller. Recently though, the dealership added Compaq and Hewlett-Packard to its offerings. "At one point Apple had the channel everyone else wanted," explains David Wong, a partner at the company. "Then Apple brought us the super values and mail order companies. A [traditional] dealer can't afford to deal with mail-order."

Small dealerships aren't the only ones having problems with Apple. The Vancouver-based Future Shop chain is no longer selling Apple equipment since it came to mutual agreement with Apple Canada a few months ago. Although Future Shop spokesperson Eric Ommenden declined to elaborate, rumors persist that the decision was made because the company would no longer receive first crack at Apple's end of line inventory products. Without access to the products it needed for its aggressive sales strategy, Future Shop exited the Apple market.

Does all this mean resellers should give up on Apple? "No," according to Elm Street's Wong. "We've always believed in Apple and we always will carry the products. It's just that now we're hedging our bets."

Allen Dacost, a computer industry analyst at Evans Research Corp., is less guarded about Apple's channel difficulties. Dacost says, "Apple has let a lot of people down on the cloning issue." He cites the recent closure of Vancouver-based Vertigon Research as a good example of how Apple is shaking itself in the East. Vertigon was the first to market licensed PowerBook clones in the form of the reselling Power v5. Business was booming and orders were coming in. Then the problems started.

When Apple announced it would cancel clones, Motorola (Vertigon's supplier) exited the clone business. Vertigon went into liquidation or couldn't produce laptops based on Motorola's licensed Mac OS technology. At

press time, CEO Paul Gossau couldn't be reached for comment because the company's phones had been disconnected with no forwarding number. The company did issue a press release stating the Apple announcement is likely cloning caused investors to "pull financing."

The Short-Term

Whether cloning would have been good for resellers and customers in the long run is a question likely to be debated for years. What is for certain, however, is that until Power Computing and other clone makers such as Motorola clear out their old inventory the marketplace will be glutted with excess supply. This will drive prices lower — at least in the short run.

Meanwhile, Apple is sending out people to educate retailers about Macintosh products. Apple's U.S. sales channel is also considering a slew of other initiatives including lowering the sales volume bar to be an Apple dealer (from US\$20 million to US\$2 million annually), lowering inventory levels, and changing how co-op dollars are spent. None of these changes are set for Canada, however, and an Apple Canada spokesperson says that it's business as usual here. □

David Rosen is a Toronto-based journalist who specializes in Apple technology reporting. He can be reached at David772@aol.com.

Apple posts loss

Apple Computer Inc. has announced a net loss for the quarter ended Sept. 28, of US\$155 million. It would have been a US\$25 million loss before the inclusion of restructuring charges and the Power Computing purchase. That's compared to a net profit of US\$25 million this quarter last year.

Average for the quarter was US\$ 5 billion, down 25 per cent from the fourth quarter a year ago.

In other news, both Steve Maravich, senior vice-president of international sales, and Mike Cline, senior vice-president of worldwide operations, have left Apple to "pursue other interests."



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Oracle Message Gathers Momentum

by Grace Carrollson



A crowd of more than 20,000 Oracle fans and Oracle-curious, swarmed the crowded city of Los Angeles in late September for OpenWorld, running into the latest surrounding the Oracle database and all things Network Computer.

There, a significant agreement on the Oracle front was unveiled in a licensing deal was announced with Tibco Software Inc. through which Oracle will embed Tibco's TIB/MessageOne publish/subscribe messaging software into Oracle's products. According to Oracle, this kind of technology fires up network bandwidth by sending a message once to multiple users, rather than multiple copies simultaneously. Users get information as an "event" happens, whether that's a financial transaction or a process change, without having to ask for it or knowing where the data resides. Keith Bhargava, product marketing manager for Tibco, emphasized the technology can be used in many ways. It can broadcast information, send an alert to select users across a network, or make a necessary change in an application in a network computing environment.



Michael Kramer, analyst at the Patricia Seybold Group, said "Widespread use of publish/subscribe technology signals the beginning of a new era in enterprise computing, called business event processing. Networked software applications will now be able to instantly import business events automatically from the database to other applications and to user desktops, rather than forcing the receiving application to repeatedly request information of corporate database or other software applications."

And Fugite Ltd. is developing a CORBA, cartridge to include with Oracle Web Application Server, sharing with the next release. The result will be the ability to exploit legacy CORBA applications in the development of Internet and intranet systems.

Oracle just released quarterly results for the quarter ended Aug. 31. With revenues at US\$1.37 billion, the company saw 30 per cent growth over the same quarter last year.

Net income increased 33 per cent, to US\$149.8 million.

In other news, Oracle Corp. has announced the Oracle Authorized Reseller program, which the company says is designed to sell Oracle solutions into the "general business market" in Canada. A sales sales manager, Kane McLennan, said: "We wanted to extend our reach to the broader market, beyond the top 250 businesses in Canada. Our goal is to reach more consumers and provide our customers with better solutions."

To qualify, resellers must maintain certain revenue and participation requirements, says the company, such as running a minimum of one local promotion campaign and marketing campaign per year, and maintaining an Oracle demonstration environment. (McLennan said that revenue amount in Canada isn't yet been set, as press time.) The program provides these authorized resellers with "an increased level" of Oracle resources, training, education, sales and marketing support, and customer leads.

Current Oracle Authorized Resellers in OARs, include: GE Capital, Ogen, Argenta and CMC. McLennan said the company expects to sign about 12 OARs in Canada this year.

And Oracle is definitely big on Java. For example, the company announced JDBC drivers for the Oracle database, and used its Oracle Enterprise Manager product is being rearchitected to Java for distributed management of multi-tier environments. As well, Personal Oracle Lite 3.0, which is currently in beta, supports a range of Java features, including Java applets classes so let developers create classes that store the state of Java objects, subset JDBC access, Java stored procedures and triggers, and a Java object browser.

Oracle is, of course, ever-force in the promotion of the Network Computer. And to come, at least, the message is getting through. Stephen Boudier, president of Montreal-based Oracle technology consultant Oracle, was in attendance at OpenWorld. He said, a year ago, people weren't thinking a lot about the Network Computer concept. But today, he said, as corporations are looking for manageable PC alternatives and secure environments, NCs are viable options. "We're developing a lot of systems to work with Network Computers. NCs are not just one company's. Sun, IBM, Oracle, Netscape... wanting to

lower the cost of computing. We are all together against that."

"The NC is an idea that is just now two years old," said Jonathan Teas, senior marketing manager for Oracle Corp. Canada Inc., of Mississauga, Ont. "A large amount of momentum has now been generated." And he said demo models of NCs based on the Network Computer Inc. (NCI) specifications are just now being launched into Canadian corporate environments for evaluation.



Larry Ellison, Oracle CEO, at his keynote address.

With NCs appearing as strongly as NCAs, US\$250 devices, Ellison is betting that Oracle will have a role in shaping that vision. "NCs are incredibly engineering devices. And they're absolutely incredibly enormously complex. We need to relocate the complexity off the desktop and relocate it back into the network where it belongs."

Oracle is heading into the schools to help spread the message of network computing. For example, Oracle announced it would provide NCs to the 100 most economically challenged schools in California. First off in that effort was the George Washington Carver Middle School in Los Angeles, where NCs are initially going into two classrooms.

"You don't really get it, until you sit down beside one of these kids and say, 'What are you learning?'" said Ray Lantz, president and chief operating officer of Oracle, at a press tour of the school.

"This is a great opportunity for us to learn more about all different kinds of subjects," Sandra Hernandez, a 13-year-old student at the school, told visiting media. "I want to be an astronaut and think these computers are going to help me a lot in my math now and in the future."

Oracle and it also plans to sponsor network computing in the Canadian education system but no details were announced. ☐

Grace Carrollson is Editor of Canadian Computer Weekender and can be reached at grace@nwinter.ca



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Muddy Waters

Canadian channels grow more convoluted as players diversify, seeking competitive positions.

by Paul Weinberg

Philosopher Charles Taylor writes that in the modern age in Canada, citizens can with ease lay claim to multiple and competing identities.

The same description might be applied to the computer industry, where the various channels of distribution and resale of products are starting to "overlap," says Tony Olvet, manager for Canadian channels research for Toronto-based market research firm International Data Corp. (Canada) Ltd.

In other words, there are PC manufacturers selling directly to end-users or setting up build-to-order programs via the reseller and distribution channels, distributors becoming more specialized and "value-added," and application-oriented resellers turning to more lucrative opportunities in systems integration.

"Their nerves are frayed. It is like someone going through an unhappy time in their marriage."

—Albert Dussau

All this talk of change and adjustment just means a lot of headaches and much worse for resellers, says Albert Dussau, an analyst with Toronto-based Evans Research Corp. "Their nerves are frayed. It is like someone going through an unhappy time in their marriage."

Build-to-order programs on the surface appear to revitalize the resellers, unlike the direct selling strategy stalked out by Dell

Computers, and trying to figure out how build-to-order, with its promise of next-day delivery of a system to an end-user, can actually work in the Canadian market with its scattered population and lack of available manufacturing facilities, adds Darren Khutub, director of the technical sales group for the Mississauga, Ont.-based Tech Data Canada Inc.

In terms of the consumer and small business end-user market, the state of the channels are "extremely unhealthy and dysfunctional," according to Susan O'Dell, president of the Mississauga, Ont.-based Service Dynamics Inc.

PC vendors are considering various routes including direct selling and build-to-order, while resellers in turn may drop certain product lines, she says. "I think we are going to see some shake up of this kind in the next year to 18 months," says O'Dell. Yet, she adds, vendors who go direct have to appreciate "it is a still out there do not necessarily possess." Saying it sync with the customer is something that Dell Computer, the most successful practitioner of this model, took some time to learn. "They went through some pretty rough patches [at first]."

PC vendors have undertaken price-cutting in response to pressures from Dell, which can afford to direct sell its PCs at 15 per cent below what its competitors charge by avoiding distributors and resellers altogether, says Dussau.

Manufacturers, he adds, are all over the map on the direct-selling model.

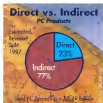
IBM, which has sold almost all its product on a direct basis at some point or other "is increasingly turning sales over to channel partners" in the meantime, while Compaq has never shown any indication of going that way in Canada. NEC and Apple have recently announced their intention to go direct.

But in the latter's case, according to the Evans analyst, it stems from "Apple dealers getting new product lines because they are speckled by all the news about Apple [regarding its financial situation]."

Nevertheless, IDC Canada prices a big hole in the perceived trend. Its latest estimates

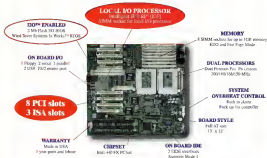


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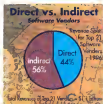
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research on channels demonstrates that indirect channels generated 25 per cent of revenues in the information technology in the country. Also, channel usage is increasing among the largest IT vendors and large firms earned "proportionally more revenues from channels."

"VARs will never disappear, just evolve," says Oviatt at IDC Canada. His organization expects VARs this year to experience an upsurge in revenue growth of just under 10 per cent, with the migration among them demonstrating major gains of 20 per cent, while their application-oriented counterparts lose money, part of a process of filter or negative growth over the last two years. Not surprisingly, he notes, "a lot of application VARs are becoming integration VARs."

Oviatt is confident that many VARs are "malleable" enough to follow the prescription for survival, which involves keeping up with the market/techology changes, continuing shift in appealing and a focus on "learning upstream" in terms of providing value-added services.

VARs should also move away from what they do not do best and let another channel take it over, says Rich Pritchard, president of the Toronto-based R.L. Pritchard & Associates. He sees the value, for instance, of distributors taking on configuration. "Many resellers still do configuration but they are not good at it. It is more cost-effective for them to focus on selling and the customer interface."



The agency model, where the reseller is primarily involved in sales and marketing and does not take ownership of a vendor's products, has only gained a foothold in the computer industry, but it may be a precursor of a new trend. IDC Canada states at 31 per cent, it is the fastest growing channel in the server and workstation sector at least.

More data predictions have for some time been aimed at the headline: high-volume distributors with their notoriously razor-thin margins, although most of the big ones have yet bailed out and closed their doors in Canada.

As major suppliers of reseller credit and the sole representatives for hardware and software vendors in the Canadian market, this channel in one form or another appears secure.

Nevertheless, many commentators including Bruce Stewart, president of Vancouver-based Channel Corp. Management believe the future of wholesale in the PC industry lies with more specialized value added distributors carrying a smaller line of products. The Guelph, Ont.-based distributor, EMI Data Systems Ltd., with its focus on Unix and ports of Unix products, is a much cited example. IDC Canada's research seems to bear this out, as an examination of the Canadian market for midrange server and workstation products. The technical, value-added distributor generated 63 per cent of the revenues in 1996, a jump from only 11 per cent in 1993, while the broad-line distributors experienced a drop from 89 per cent two years ago to 37 per cent last year.

"VARs will never disappear, just evolve."

— Tom Oviatt

Software is often cited as the Achilles heel for distributors, with the increasing likelihood that many packages will be bought directly over the Internet from suppliers by consumers. "The 'hot' is hampering the ball out of the volume portion of the distribution business," says Stewart. But over at IDC Canada, channels researchers Michael O'Neil and Steve McMillan, counter that it is too soon to write off the role of distributors, and resellers for that matter, supposing that some brands are too specialized to be sold on line.

Also, with managing software licenses, it may be the distributor who will take on a greater role. "There are not many players in all the channels," says Ello Levy, president of Mirvishanga, Ont.-based Tech Data Canada Inc.

It seems these days that the only certain thing about the channels — is the uncertainty itself. ■

Paul Winstberg is a Toronto-based freelance writer specialized in high technology. He can be reached at pwinst@winstberg.com.

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Serve Up a Profitable Holiday!

by David Bowen

"It's the season to be jolly — especially if you're a computer retailer. This year sales are booming in many computer stores but the best is yet to come: holiday season! Since a huge portion of any retail business is generated around the holiday season, it pays to plan ahead.

Just what's at stake? According to Albert Doucet, an analyst at Toronto-based Enigma Research Corp., holiday computer shipments can comprise 40 per cent or more of the entire year's sales. With numbers such as these, holiday season can be a make-or-break opportunity.

One of the many challenges facing retailers this year is that customers are less loyal and increasingly willing to drive a few miles for a "better" deal. This means they won't wait for you to order an out-of-stock item. Knowing what your customers will buy is always tricky but doing this during holiday time is even more complicated. First, manufacturers and developers seldom tell retailers what they're going to advertise and generate demand for. Second, inventory management during the holidays is problematic, since you need everything on the shelves within minutes of delivery. Moreover, of course, you need every person on deck to sell.

What to do? Organize now.

Here's how:

- **Run discount and "how-to" sessions.** Now's the time to invite reps from the hardware software and accessory companies to spend an hour or two on a weekend doing in-store promotions. Food stores do this and so do hardware outlets. It works better than mail just might work for you. Don't forget to let all your customers know about the sessions, either through a customer mailing or even a posting on your Web site.
- **Concentrate on specific markets.** Everyone is buying for kids during the holiday season so have special promotions on kids' prod-

ucts. David Peng, a partner in Toronto-based Elan Street/Applied suggests keeping a highly visible display of items at low price levels, especially for the holidays. "Under \$10 from \$10 to \$20 and between \$20 and \$30 are key levels for us," he explains. Also, don't forget the small stocking-stuffers that make the holidays extra special.

- **Decorate for the season.** Make some festive store signage to showcase your products. Sure you can wrap up these boxes with shiny paper and tinsel but there's a lot more that can be done to jazz up your store. For example, Paper Direct has dozens of different paper pouches all set to go (1-800-272-2777). Even if you're not a store-front retailer, you can still take part in the festivities. Holiday promotions are common in themselves to contact your customer base. *Apex* up your e-mail messages with monthly reminders about products you want to promote. Gary Smith, president of Apple SAH, United Computer Resources, suggests having a different sales theme every month, not just November and December.

Despite the non-constant threat of a postal strike and the high cost of mail here in Canada, many retailers will send out holiday greeting cards to their best customers. Business Book (1-800-388-0220) has customizable holiday cards that you can order with your company name, special discount offer — or anything else you want.

- **It's important to select targeted greeting images.** In most cases, this will mean sending non-religious greetings. Many Canadians have abandoned the traditional religious holidays, making them into annual family get-togethers. Think "women's" and "tree" scenes, instead of "Santa" or "Nativity".
- **Create bundles of presents with all the necessary bits and pieces.** Complete bundle solutions are even more effective during the holiday season. No one wants to have their kid open a present that they can't get together and use that very day because of a missing

able, battery or extra ink cartridge.

But don't go overboard by including too much in your bundles. Comparison shoppers need to see a real value in the bundle that they'll stay clear of your products. Concentrate on a few key items in each pack and emphasize their usefulness. Attach the tag into which many computer advertisements fall, stressing the product's features, but failing to sell customer benefits.

- **Categorize gift bundles in terms of both price and age group.** Myles Kotson, owner of The CD-ROM Shop suggests sorting educational titles by giving sophistication as well by age.

- **Make gift-giving easy for your customers.** If you have time (and your margins allow), pre-wrap some bundles (decide a couple bundles not for display). This way your customers make a selection, pay for it and give the pre-wrapped gift. Two tips: first, ensure you use different paper for each gift to avoid passing confusion. Second, keep photographs of the UPC labels on a card by the cash register so that winning the purchase doesn't involve unwrapping the gift.

- **Finally, put together a package of presents that people normally wouldn't get for themselves.** For example, lots of people have cellular phones and laptops but how many can collect their email on the go? Would any of your business customers benefit from a bundle containing a PC Card modem, a prepaid phone card and a cellular modem kit?

No matter what you do this season, make it easy for your customers to buy gifts for their friends, family and business contacts. If your prices are competitive and your presentation is well done, everyone will leave your store happy this holiday season — including you. ☐

David Bowen is a Toronto-based journalist who specializes in high technology reporting. He can be reached at DavidF2@world.com.

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Virtual Private Networks Getting More Real



While the concept of the virtual private network has been around for a while, recent developments appear to be bringing the field into renewed focus. And if more companies start seeing the

VPN as a viable solution for their distributed operations, it may mean new opportunities for VARs and consultants. However, as with most emerging fields, there's plenty of hype along with marketing and other competing standards. This is sure to keep decision-makers on their toes.

The allure of the VPN comes down to the promise of cost savings: the convenience of wide area networking or remote access to central resources without the expense of dedicated leased lines or other private infrastructure and manpower management costs. Companies won't have to set up a private infrastructure because the virtual network concept relies on the so-called public infrastructure of the Internet.

You might think somebody's got to have some kind of nerve to use secure net Internet in the same breath. The upside nature of the Net has to be near the top of the list of concerns that users have, and it's one of the main reasons for the reluctance to get things like credit card numbers on shopping sites. But the lack of security is the bogyman that the popular press likes to revivify in print out the usefulness of the Internet.

In fact, companies have been working to secure the Net for private use for years. Firewalls between corporate LANs and the Internet at large is one example. IBM says it has been using its own SecureNet Network Gateway firewall for several years to protect its internal networks from intrusions by unauthorized outside (Internet) users.

More recently, other solutions have been to improve the security of Internet link-layer protocols. We've seen a couple of attempts at this. Microsoft has extended the point-to-point protocol to something called the point-

to-point tunneling protocol, or PPTP. Cisco has an alternative protocol called layer two forwarding, or L2F. A draft protocol combining the two, called layer-two tunneling protocol, or L2TP, has been proposed.

Tunneling is the way of securing the point-to-point link. By using something like L2TP, a secure link is established between the ISP and the company's internal network. It's secure to the extent that other Internet traffic is restricted from using the tunnel. What tunneling doesn't address is authentication or data encryption, but other solutions are being developed. For example, RSA Data Security Inc. of Redwood City, Calif., is looking to have its DNSscale one-stop gateway adopted. Spoofing occurs when someone intercepts a user's request to a Web site and substitutes the site's DNS address with another — so the user unknowingly ends up at a different site. As part of the effort to curb spoofing, RSA says it will be providing the Internet Software Consortium (ISC) with a free license to use DNSscale.

Meanwhile, PPTP seems to be gaining some support. In September, Extended Systems of Boise, Idaho, introduced a remote access VPN called ExtendedNet VPN. The advantage over regular dialing remote access is the savings that can be realized by dialing into a local ISP instead of incurring extra long-distance charges. Remote users would need PPTP capability on their Windows 95 or NT systems, but could access the corporate LAN via a regular modem or cable modem or an ISDN connection.

Another company that is aggressively pursuing VPNs is 3Com. In October, the Santa Clara, Calif.-based company announced a set of VPN solutions along with a road map for their delivery. Among the products announced were TransNetWare software, 3Access VPN Tunnel Switching architecture and network hardware products.

3Com says its new tunnel switching architecture allows seamless integration of a corporation's LAN and its VPNs without compromising its access security mecha-

nisms as would be found in a corporate firewall.

At the Network+Interop show in Atlanta in October, V-One Corp. in Germantown, Md. announced its Multi-Access Virtual Private Network, and claims it is the first product that offers security across several layers of the OSI network protocol stack. According to V-One, the multi-access product "enables a corporation, for the first time, to secure communications across multiple layers between all classes of users (remote employees, business partners and customers) utilizing all open network environments (Internet, intranet and extranet) to access multiple types of applications (Web, client/server and legacy)."

V-One explains that existing VPN security implementations operate on single layers: a remote access solution for mobile users, or an electronic commerce solution for transactions, for example. The company says its multi-access solution allows the multiple layers of the network to perform the specific functions they're best suited for. The multi-access engine analyzes the packets, then applies the appropriate security module "to enable a secure end-to-end VPN across the optimal network layer." ■

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David Tomalia is a Vancouver-based journalist and Editor of The Computer Paper. He can be reached at david@tp.ca.

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The Electronic Eye

Videoconferencing is a billion-dollar business — is it part of your vision?

by Jeff Emsw

Something is happening to videoconferencing — it's becoming a real market. Despite some ongoing limitations (namely the limited bandwidth of standard telephone lines), the solid desire of the videophones is attracting large numbers of new corporate and consumer videoconferencing users. Videoconferencing is becoming a huge and diverse opportunity for resellers ranging from A/V specialists to networking experts, to mainstream consumer retailers.

Recently, when given the job of testing several PC videoconferencing products, the task was approached with some nervousness. Because, in the early days of videoconferencing, it was usually a near-uneventful pain to install the technology and get it to work.

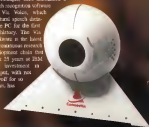
But surprisingly, this time, although it took some effort to install and configure two of the test systems as a PC, it was surprisingly easy, installing a SCSI card.

In the third example, when we tried an IPC Portium 133 system that came with the videoconferencing system preinstalled, it was remarkably simple. And using the IPC system connected via an Ethernet card to the Rogers Wave high-speed Internet service, worked extremely well. Then, at the Comdex/NEA show in Montreal, we tried out the latest Toshiba notebook computer, which comes standard with a clip-on video camera and all the other hardware and software needed for "plug and go" videoconferencing.

Overnight Success, After A Quarter-Century

In the computer business, some technologies take a long time to mature, and then suddenly blossom and pop everywhere. This summer, for example, IBM announced a new speech recognition software product, Via Voice, which brings natural speech recognition to the PC for the first time in history. The Via

Voice software is the latest link in a continuous research and development chain that goes back 25 years at IBM. All that investment in speech input, with not much payoff for so many years, has suddenly



resulted in a broad product line of voice recognition software titles that is selling hundreds of thousands of units, according to IBM.

Videoconferencing is analogous. Since the first experimental videophones were rolled out by AT&T nearly 40 years ago, many large and small companies have tried to make a video equivalent to the voice telephone. In the last three or four years, market acceptance has grown along with the capability of the products, so that it is now a true billion-dollar industry.

Videoconferencing can be divided into two real markets, and one dispersed, unexplored, but significant "half market."

The Business View For Videoconferencing

Most of the revenue opportunity for vendors in the videoconferencing market is in the high-end corporate, educational and governmental space. Many large-scale clients have seen the real benefits of videoconferencing: grow for remote education, training, sales and business meetings, telemedicine, and remote workgroup applications. Many enterprises have eagerly bought into the business case for videoconferencing, on the basis of real, measurable cost savings and productivity improvements from using "virtual meetings" instead of costly, time-

"Many enterprises have eagerly bought into the business case for videoconferencing, on the basis of real, measurable cost savings and productivity improvements from using 'virtual meetings.'"



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connecting travel to real meetings. The results of many videoconferencing installations have proven the usefulness of the technology, and positive word of mouth has spread, encouraging us wider use. Also, and perhaps more critically, business videoconferencing systems generally make use of existing high-speed networks, giving the best possible performance, and modern videoconferencing solutions fit comfortably into professional MIS departments' capabilities. Also, successful vendors of business videoconferencing systems tend to be highly skilled professional firms with the capabilities and experience to deliver a high degree of reliability and ease of use to a videoconferencing network.

Many major manufacturers, such as car companies, are now

strongly pressuring their key partners to install videoconferencing facilities so that meetings can be held more quickly and cheaply. Many universities are also expanding videoconferencing into their regular programs, to allow international and remote seminars and conferences.

On The Home Front

The second market for videoconferencing is the consumer and SOHO (Small Office/Home Office) market. In this market, sales tend to be of the 'one-to-two's' variety, where a customer wants to put a video camera card and a camera onto a PC, and connect to other videoconferencing users over PCIS (Plain Old Telephone Service) lines. Even if an individual user has an ISDN or cable modem connection, most of the other videoconferencing users they will be connecting to will not. This market is growing rapidly in spite of continuing problems of low bandwidth and high support requirements, and most of the business is going to resellers who work to make it easy for the end-user to get videoconferencing capability installed on their PC. In some cases, dedicated hobbyists do their own complete installation, but this is often a prepayment for an installation and expensive service and support burden.

The Market That Dares Not Speak Its Name

The final, 'tail market' for videoconferencing is one that made instant fortunes for a few vision entrepreneurs in late 1993 and much of 1994. This is the adult, one-way videoconferencing market, where an adult 'performer' with a videoconferencing system provides a live video feed for subscribers via the Internet. Those who got into this market at an earliest stage were able to charge subscribers up to US\$40 per minute of connect time. Some were reported to be making millions of dollars of profit for modest investments — the subscribers only needed a basic Internet service hookup and sample or no-software to do the video downloading, so there was little in the way of tech support required. Aside from moral questions surrounding what is essentially an extension of the traditional sex trade, by mid-1995, so many com-

Videoconferencing: A Guide To Some Of The Players And Products

PictureTel

PictureTel is a major manufacturer of videoconferencing system peripherals, with an extensive line of products that focuses on the business market. Among its latest products is the DuoScan compact videoconferencing system, a \$10,999 (list-price) videophone/videoconferencing appliance that requires only a phone line and a TV set as hardware. PictureTel also offers more traditional videoconferencing products that are installed into PCs, and which offer multipoint switching. (<http://www.picturetel.com>)

Intel

Intel Corp. has taken a strategic position in the videoconferencing market, where Intel CEO Andy Grove has personally taken to demonstrating and using Intel videoconferencing products at major public events. At the recent Pentium II consumer launch in Toronto, Intel Canada architecture manager Doug Cooper also personally used Intel videoconferencing technology to highlight the power of Intel's latest CPUs. In June, 1995, Intel launched its TeamStation system, a multifunction corporate videoconferencing and not-working solution, based on a Connected PC and server system. According to Scott Sterling, general manager for the Business Communications Products Operation of Intel, "Conventional room system videoconferencing products have been too limited and too expensive. Intel's TeamStation system based on a Connected PC can deliver the benefits that personal computing has historically brought to the business community: lower cost, increased flexibility and greater manageability." The TeamStation is a complete solution that is bundled inside a complete Intel Pentium II based PC.

Intel's new Intel Business Video Conferencing with ProShare bundle has a suggested retail price of US\$1,199, including an audio/video card, ISDN

adapter, NTSC video camera, headset, microphone, desktop microphone, both in accurate echo cancellation (for reducing the distortions of ambient noise and echoes), and videoconferencing software.

Intel has collaborated widely with other technology vendors in the video conferencing field, including Microsoft (where NetMeeting software is integrated with the Intel Business Video software), and concluded an agreement with 3Com whereby Intel's ProShare videoconferencing product, along with PictureTel's products, were selected to be the suppliers for their in products for AT&T's connected Videoconferencing systems. As Intel's own videoconferencing technology has evolved rapidly, a commitment to Intel ProShare seems to upgrade to the new Intel Business Video Conferencing product has recently been announced. An Intel Business Video Conferencing Product Development Kit (PDK) is also available to enable ISPs, system providers and third party developers to create custom solutions for clients. (<http://www.intel.com/>)

IPC/3D Micro

3D Micro Computers Ltd. has recently featured a very slick IPC Pentium PC with a videoconferencing system pre-installed. When tested, this system was by far the easiest to use of any other videoconferencing solution we've tried, since no installation was required by either the reseller or the end-user. With the addition of an Ethernet card, and connection to the Rogers Video high-speed Internet service, the IPC videoconferencing system was hard to beat. (<http://www.3d-micro.com/>)

Sony

Sony is perhaps the world leader in video technology, and a major player in many other segments of the computer industry, including digital cameras,



Intel and PictureTel.

For their part, Intel and PictureTel announced joint ventures to promote business videoconferencing solutions, and Microsoft joined the

partners had flooded into the now-very mature videoconferencing market, that company first was declined to raise that two-fold of the original price levels, and profitability declined proportionately.

A Gathering Of Giants

Much more significant is the long run over the movement of the PC industry's biggest players into the business end of the videoconferencing market. The traditional purveyor of videoconferencing, AT&T, eventually threw in the towel in an attempt to promote a consumer videophone. To satisfy those consumers who had bought the now obsolescent videophones, AT&T announced that it would launch a trade-up arrangement where customers could exchange the old videophones with videoconferencing products from the new market leaders, Intel and PictureTel.

mass storage devices, and semiconductors. The company has made every attempt to broaden its presence in the computing industry, most recently with its VNAO line of premium PCs, and it now videoconferencing as a strategically important market, where it believes it can leverage its marketing strengths to take a large slice of a rapidly growing market. Sony has therefore taken direct aim at PictureTel with its new TrueCam 3000 Multitasking Videoconferencing and TrueCam 5100 Superlite Systems. These are very sophisticated, high-performance videoconferencing systems that feature built-in cameras that focus on the speaking and which also allow powerful, simple to use multiple videoconferencing capability. The TrueCam 5100 system is intended to be a user friendly working system for under \$20,000, and can offer full speed 30 times per second video on a 104 Kbps network connection. In discussion with Sony representatives at the recent CSTA show in Toronto, CCW learned that Sony's looking at securing PictureTel's coding and VNAO and sharing with that level of technical and marketing capability to help push its move into the Canadian market. (<http://www.sony.com>)

Linkup Technology

This Canadian distributor of the Videolink family, a paid \$295 videoconferencing kit, has just announced a new software upgrade that allows users to load by e-mail to any PC user with an Internet browser. According to Anne Liao of Linkup, since the company began to distribute Videolink in June 1995, sales have more than doubled every month. Liao claims that the most successful reviewers are those who use a phone down call to direct customers and sell the benefits of videoconferencing. He also says that pre-installing videoconferencing units rather than letting and users attempt this task,

ultimately including telephone support in its new release of Internet Explorer 4.0.

PictureTel is the undisputed leader in the videoconferencing market. The company's 1996 revenues were around US\$500 million, and included a decent profit margin. PictureTel's Canadian resellers include blue chip companies such as Adcom Electronics, one of the leading players in the professional audio/video sales and rental market in Canada, and IBM Canada. According to PictureTel representatives, 1997 revenues will likely be slightly higher than 1996, but the number of units sold, due to the rapid drop in price, will be "much greater."

Intel's interest in videoconferencing is complicated. The company has long been attracted to videoconferencing because it is the perfect "power application" — it benefits greatly from faster processors, higher capacity servers, and higher bandwidth telecom and networking infrastructure — all areas that Intel has a vested interest in promoting. Similarly, Microsoft wants to get computers communicating with telephones and televisions, so that Microsoft can stake out new territory and sell more software into the new, content-intensive-oriented technological frontier. And IBM, which makes most of its money from network servers, software and support, sees videoconferencing as an excellent application through which to grow its business. Other vendors of telecom and networking products, including 3Com and Lucent, have also become active in supporting the videoconferencing push.

Standards, And Non-Standards

In theory, adding videoconferencing capability to an individual computer is relatively simple: connect a video camera and a video capture card, to bring the video into the computer, use a microphone

"Only when videophones number in the hundreds of millions will anyone with a video capable computer be confident of being able to call virtually any business, school, government office, or home, and expect to see the face of the person they are calling pop up on their computer screen."

Intel's in much lower support costs, and higher customer satisfaction. (<http://www.intel.com>) or 1-800-695-4300

Conex Marketing/CVC

CVC Canada announced the launch of its Win-Talk VideoPhone system in August 1997, claiming to offer an affordable and automatic way to use video of the on VideoPhone (not make it very easy for consumers to enter the world of live, two-way video communication over the Internet). The Win-Talk product consists of a digital camera, capture board, microphone, connection and software, and is designed for Windows 95 PCs, for a retail price around \$400. (<http://www.cvc.ca/>)

Digital Vision Computer/WinPCI

Digital Vision, a long time leader in PC video, offers a very nicely engineered consumer videoconferencing bundle, which includes the excellent WinFrame CU/Serial Video Chat software. The videoconferencing software features color video, audio, chat, and white board communications for Windows and Macintosh platforms. It can be used on the Internet, or any TSPW network for real time person to person or group conferencing, based cents and chats. (<http://www.dvision.com/>)

Toshiba

On Sept. 8, Toshiba announced the Team T400T, a \$10,000 (US\$4,995) Pentium "three in one" which includes an integrated videoconferencing system. Toshiba, which is also a major vendor of digital cameras, says



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connected to the PC's sound card to input voice, and a modem or networking card to send and receive the audio, video and any other (such as white boarding, or collaborative applications) data streams. In practice, videoconferencing can still be very tricky. For example, if using regular phone lines, data streams are slow, and audio and video quality is poor, and making end-to-end connections between two users is very difficult. Users of consumer videoconferencing products get used to frequent, irritating interruptions and redialings. On a network, videoconferencing performance can be much better in terms of speed, and it's possible to support multipoint videoconferences through the use of a server. However, this entails a whole new level of complexity and cost, and is generally something beyond either the average end-user or retail vendor's abilities.

Another big problem is compatibility. In theory, all current videoconferencing systems conform to standards set by the United Nations' International Telecommunications Union (ITU). The most important of the ITU standards are the H.323 data conferencing standard, which allows for shared file transfers and "whiteboarding," the H.320 standard for public (circuit switched) networking, which allows audio and video to be shared among different conferencing systems, and the H.323 standard for Internet or Internet "IP" networks. The H.323 standard will allow videoconferencing to become universal over the Internet, since it includes the H.263 and H.261 video standards, as well as G.711, G.722, and G.725 audio standards. The H.324 is a standard aimed at supporting interoperability over regular (POTS) phone lines. While all of these letters mean is that according to the UN, all videoconferencing systems should talk to each other.

Maybe one day they will, but at the moment, some vendors' earlier videoconferencing products are incompatible with their latest offerings.

Advice To VARs And Resellers

To be successful in the videoconferencing market, resellers have to develop the specific expertise needed for a rapidly changing and technically demanding market. This means having in-house experts in videoconferencing. Potential customers have to be shown the technology at work, which means demo units up and running at all times. In the case of the business market, a high degree of competence with networking technology is necessary. In the case

of videoconferencing as a major growth market in high end business networking, and in solving the TeamWARE problem for the early adopters who would be willing to experiment with mobile teleconferencing (<http://www.teamware.ca/VectraWebSite>).

From Quebec's Les Technologies Vectra Peripherals, 818 Inc. comes the Vectra WebSite, a very cost-effective videoconferencing kit that includes a 30-tilt capture card, high resolution CCD camera, microphone, and MicroSoft NetMeeting software, which is compatible with Internet Explorer 4.0. The kit costs \$445. (800) 966-9667. Micro Technologies/Golden Eye

The PC Videoconferencing Kit from Micro Technologies is a capable entry-level product which includes the latest digital camera, microphone, and software, but doesn't require a capture card. (416) 733-4600

Corel

Corel developed a capable videoconferencing system in 1996 which included the CorelEye digital camera, CorelRemote, and CorelVideo networked video products and although its units were modest, the expertise gained with that endeavor seems to have helped spawn the Corel Video Network Computer (VNC), a Java-based, low-cost, cost of manufacturing network computer with integral support for videoconferencing, as part of its basic network capability. Corel spun off the VNC venture as a standalone company in which Corel retains an interest. At the recent Montreal SOGS show, Corel CEO Dr. Michael Coupland reinforced Corel's ongoing interest in network computing, stating that the new device which it plans to introduce will allow corporations to lower the real annual cost of operating

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of the consumer market, installation should be done by the vendor at the vendor's service facility, by a qualified technician.

In one sense, the continuing relatively high level of complexity of high performance videoconferencing is good for specialized resellers and VARs, but as costs and difficulty decrease, the market will grow exponentially, making for much greater opportunities for resellers.

The Future

In order to become a universal alternative to the video telephone, videoconferencing has to meet some yet outstanding requirements. First, support for videoconferencing has to be integrated into all computer operating systems, and all Internet browsers. This is being done, but vendors such as Sony and Pioneer! still promote proprietary videoconferencing software, which operates separately from browsers such as Microsoft Internet Explorer and Netscape Navigator. Video quality also has to improve to the level of consumer VHS video. This is the biggest hurdle, and will slowly be overcome by better data compression and faster network con-

nections, PCs and servers. And, finally, videoconferencing products that are true videophones, cheap, compact, and plug-and-play, like the Pioneer! SmartSim, but at a fraction of the cost, will have to be made available to the non-computer-using population.

Only when videophones number in the hundreds of millions will anyone with a video capable computer be confident of being able to call virtually any business, school, government office, or hotel, and expect to see the face of the person they are calling pop up on their computer screen. ■

Jeff Evans is Associate Editor for Canadian Computer Wholesaler. He can be reached at jeff@jaggon.com.

a networked computing "swif" by 30 to 40 per cent per year (<http://www.com.ca/3com>).

3Com

When 3Com bought up U.S. Robotics, it also brought into the videoconferencing market, in the form of the Signature video kit and video modem and system card products. U.S. Robotics announced X2 upgrades (200Kps download capability) for the Signature products in the spring of 1997. In various configurations, the Signature system offers good video capture capability as well as videoconferencing. Kit prices ranging from \$250 to \$550.

Although 3Com's long-term strategy towards offering complete videoconferencing solutions is unclear, it seems likely that the company, at its role as a major networking technology vendor, will be involved in videoconferencing solutions (in a wide form, <http://www.com.ca/signature/>).

Bay Networks

Earlier in 1997 Bay Networks Inc. announced a worldwide distribution agreement under which Bay Networks would offer First Virtual Corp.'s (FVC) video network product line, which combined with Bay Networks' switching infrastructure, would enable "Business quality video networking and collaboration...to provide multimedia capabilities throughout the entire enterprise from main-systems desktops, LAN and WAN backbones to branch offices." The First Virtual products included ATM video Media Servers, and ATM-attached Media Storage Servers, and the V-Center, an ATM-attached line broadcast server. (<http://www.baynetworks.com/1997>).

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The new Pentium II PCs positively zing, and power-push the latest multimedia applications!

by John Abbott, Tim Bagshaw-Holte and Steve McIndoo



The Pentium II is getting a lot of attention in the market place, more so than its predecessor—the Pentium Pro.

The Pentium II is manufactured in the same process as Intel's Pentium Processor with MMX technology. The addition of MMX has allowed faster operations in 16-bit mode and 32-bit mode operations in NT environment. It is the addition of MMX technology that addressed the sluggish 16-bit operations and has put Pentium II on the production line in a big way. Of course, the Pentium II is undoubtedly the fastest processor in the market with speeds of 233MHz and 366MHz, in both single and dual CPU configurations.

7.5 Million Transistors

The architecture of this new Pentium II chip is unlike others. By packing 7.5 millions transistors into this new processor, Intel has been able to achieve these unprecedented speeds. While the Pentium and Pentium Pro plugs into Socket 7 and Socket 3, respectively, the Pentium II plugs into Slot 1. Another new detail? Yes, this had to be done due to the physical nature of the Pentium II cartridge assembly as well as engineering concerns associated with the cartridge, such as electrical signal issues associated with high-speed processors.

New Dawn For Multimedia And Videoconferencing

This is truly one of the first instances where the multimedia and videoconferencing indus-

try has the speedy tool necessary for a true saturation in the competing industry. Pentium II's incorporation of MMX technology has already enabled specific software targeted for the multimedia market. And there will be significant advancements in MMX corporate software development, mainly in the areas of videoconferencing and other CPU-heavy applications. Graphics professionals are already using Adobe Photoshop MMX-enabled scripts that outperform Pentium Pro by a wide margin.

Success and Competition

The Pentium II faced immediate competition. AMD has introduced the K6 — a 233MHz chip with a RISC-like core and MMX technology. The K6 has been tested in similar environments with the Pentium II and has failed to match up Pentium II performance. However, K6 has managed to surpass the performance of a 200MHz Pentium Pro. When budget is an issue, the K6 may be a better option for your customers.

New Processor Markets

What should a consumer buy? First you must educate them about the new processors. Consumers looking for an inexpensive desktop should be presented with the original Pentium processor. For those who can afford a bit more, offer a K6 system. This will give the best price and performance ratio. For the real power-hungry enthusiasts, present the

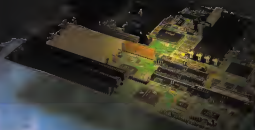
top-end Pentium II based systems. Furthermore, customers running multimedia-intensive applications should be offered systems that incorporate Pentium processors with MMX. Corporate server clients should be presented with low-end servers based on Pentium II and Pentium Pro processors that are scalable.

Our Tests

We asked vendors to send us machines equipped with either 266MHz or 300MHz Pentium II processors and 64MB of RAM. We left the remaining components up to them, but told them that we were looking for systems that are ready for anything. What we got was both intriguing and surprising at the same time. A few opted to fit their systems with DVD drives and 3D accelerators, while others chose to keep things pretty tame.

Many systems arrived late this month as vendors were anxiously waiting for their suppliers to send them the latest 440LX motherboards. Unfortunately, a small number arrived too late to be included in the survey. These include Myson, INIT and DA Comp. Look for a brief follow-up to these machines in next month's edition. We ran the BAPCO benchmark suite on all machines running Windows 95 and set it to a resolution of 1,024 by 768 at 16.7 million colors, with the exception of the IBM machine which was run at 65,536 colors due to its 2MB limit on the video card.

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 • 100 MHz operation
 • 100 MHz LAN

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requirements e.g. TV out, Sound on board etc.

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A-Open

Suggested Retail Price: \$3,999**Street Price:** \$3,740**Retailer Price:** \$3,400**Service Depots:**

Atlantic — Nova Scotia

Quebec — Montreal

Ontario — Markham, Hamilton, Ottawa

British Columbia — Vancouver

Support For Resellers:

Co-op advertising

Reseller referrals with toll-free tie-in to resellers

Toll-free tech support

Volume Discounts: Yes**E-mail For Channel Use:** channel@ao.ca**Editor's Notes:**

Computers bearing the A-Open name are well known to us here at

CCW's Labs for offering good performance at very competitive prices. To start, we have a Pentium II CPU operating at 360MHz which sits on a newly-released A-Open AXGL motherboard with an ATX form factor bearing the latest 440LX chipset (see line). As requested, the machine was equipped with a healthy dose of 64MB of high-speed SDRAM. Speaking of high speeds, this A-Open system was configured with the new Matrox Millennium II AGP video card. Storage components include a 6.4GB Quantum hard drive with Ultra DMA support, and an LS-120 floppy drive. Multimedia is delivered with the help of a 34X CD-ROM, an Acer AW19Pro sound card and a pair of WaveSonic 160W speakers. Also included in the package are an Acer LAN201 network card, an Acer 56Kbps modem and a programmable keyboard capable of adjusting volume, controlling CD-ROM activity and calling up the Windows 95 calculator at the press of a button. Although the system was one of several which encountered problems with the database portion of our benchmark suite, it still managed to produce good results for a machine in its class.

IBM PC 300XL

Suggested Retail Price: \$3,639**Street Price:** \$3,239**Service Depots:**

Ontario — Don Mills

IBM has business partners across Canada who are service authorized, so wherever a customer resides in Canada they can find a service depot.

Support For Resellers:

Co-op advertising

Reseller referrals

POP displays

Toll-free tech support

Drive Use Availability: Yes**Editor's Notes:**

The new PC 300XL from IBM makes use of the 360MHz Pentium II processor on a 440FX motherboard, and comes standard with 32MB of EDO RAM. The model sent to us for testing, however,

was equipped with an additional 64MB, bringing the total up to 96MB. The video card in this machine was an 83 Trio64 V2 with 2MB of DRAM onboard. This meant we had to test this machine as a 16-bit color depth, as opposed to 32-bit which was used for all other machines. IBM's own 4.2GB hard drive is used for storage in this system. This drive has some impressive benchmark results, and will not only provide ample storage, but will also keep data moving quickly throughout the system. The system also includes a 16X CD-ROM, a 10/100Base-T network card, and a Sound Blaster Pro compatible sound system. Although we tested this machine with Windows 95, it should be noted that it ships with Windows NT Workstation 4.0. An overall score was not obtained for the machine due to a problem a macro-level with the Desktop Presentation portion of the benchmarks, but its other scores indicate satisfactory performance.



ELCO

Suggested Retail Price: \$3,690**Retailer Price:** \$3,295**Reseller Authorization Requirements:**

Pre-approval from Elco systems (Canada) is necessary

Service Depots:

Quebec — Montreal

Ontario — Ottawa

British Columbia — Vancouver

Support For Resellers:

Co-op advertising

Reseller referrals

Web site includes technical information, drivers, and dealer-specific space

Volume Discounts: Yes**E-mail:**elcoyye@pathcom.net**Editor's Notes:**

Elco's subcompact this month features a Pentium II processor running at 360MHz on an EPuX K16-LA motherboard using the latest 440LX chipset from Intel. It contains 64MB of high-speed SDRAM, a new Diamond Viper V330 video card with 4MB of SGRAM onboard for blazing graphics, a Sound Blaster AWE64 sound card, a Western Digital 4.3 UDMA hard drive and a Toshiba DVD-ROM drive. For out-of-the-box communications, there's a USB Speaker 56Kbps fax modem. Also included in this system are a pair of great sounding 320W speakers for the absolute maximum multimedia experience. This machine managed to score really well on our benchmarks, coming in second place overall in the 300 MHz-plus. This system is loaded with Grade-A components and is a hard one to resist.

Express Micro

Suggested Retail Price: \$5,499**Service Agents:**

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 Ottawa — Clinton, Chatham, Hamilton, Huron, Markham, South
 Bay, Mississauga and Toronto
 Saskatchewan — Melfort, Moose Jaw, Regina, Saskatoon and
 Swift Current
 Alberta — Calgary and Edmonton
 British Columbia — Coquitlam, Courtenay, Nanaimo, Richmond
 and Victoria

Support For Resellers:

Co-op advertising
 Reseller referrals
 PCIP displays
 Toll-free tech support

Volume Discounts: Yes**Demo Unit Availability:**

Authorized dealers are allowed to purchase one demo system per
 location, every three months

E-mail For Channel Use:

jerrywang@data.com

Editor's Notes:

Machines with the Express Micro name are well-known for utilizing high-quality components and offering excellent performance as a result. This month was no exception for this 300MHz winner. The machine uses an A-Digit AX1F ATX motherboard with Intel's 486FX chipset and 64MB of EDO RAM. Multimedia accessories are once again first grade, starting with the ASUS Gold from Creative Labs, and a DVD drive from Sigma Design. A Creative Labs Modem Blaster 38Kbps voice/fax modem is also part of the system, as is a Kitem network card with coax and 10Base-T support. As an added bonus that any gamer will appreciate, we have the latest 3D accelerator from Matrox, the RMD. There is also an impressive speaker system included with this machine, consisting of a subwoofer with two satellite speakers and a microphone, and there is a long list of software titles that are included. The system includes Microsoft's SideWinder Pro joystick. Overall, this machine offers excellent features and solid performance.



Edge Wholesale KTX

Suggested Retail Price: \$4,399**Suggested Price:** \$3,299**Reseller Authorization:** Yes**Service Agents:**

Quebec — Ville St-Lauront, Montreal
 Ontario — Markham, Toronto
 B.C. — Richmond, Vancouver

Support For Resellers:

Marketing funds
 Toll-free tech to resellers
 PCIP displays
 Web site includes technical information and drivers

Volume Discounts: Yes**E-mail edge-to-edge@edge.net****Editor's Note:**

One of the fastest machines in this roundup, this machine is

packed full of great components that would please anyone, especially the system games. Its processor is a 100MHz Pentium II, sitting on a KTX motherboard with the new 440LX chipset with 64MB of SDRAM onboard. AT's new Speed/Work AGPs and with 8MB of SDRAM provides not only super-

fast graphics, but is capable of very high resolutions. The system includes a new Master DiamondMax 700 hard drive with Ultra-DMA support, a built-in Zip drive from Iomega, a Creative Labs DVD drive, a Sound Blaster 16 sound card, and a KTX 38Kbps fax/modem. Performance on this machine was spectacular, coming in at an overall score of 372, and having no problems whatsoever during the benchmark. Software titles included with this machine are IBM's AntiVirus, and the IBM WorkBook Pack, as well as Lotus SmartSuite 97.



Daring

Suggested Retail Price: \$3,799**Suggested Price:** \$3,619**Reseller Price:** \$3,299**Volume Discounts:** Yes**Demo Unit Availability:** No**E-mail For Channel Use:** sales@darling.net**Editor's Notes:**

This month's system from Data Electronics features a Pentium II processor operating at 266MHz, an ASUS KN97-X ATX motherboard with the 486FX chipset and 64MB of EDO RAM. The

motherboard includes the Sound Blaster 16 chipset for 16-bit sound without the need for a separate sound card. Once again we see the Master Millennium II card being used with 4MB of VRAM onboard and the Quantum Fireball 64GB drive with Ultra-DMA support. Creative's DVD drive is also part of this system, and is ready for a view of DVD movies already available on DVD drive. A U.S. Robotics Sportster 38Kbps voice/fax modem is included for your customers' communications needs, as well as a pair of Yamaha M15 speakers. This was one of a few machines this month to encounter problems with our benchmarks, specifically the diskware portion of it. Aside from this glitch other scores indicate average performance for a machine in its class.

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- Supports ACPI specification
- Ultra synchronous DMA mode - 33 MHz
- Supports Modern Video-Lifting-On
- RTC timer to power on or wake-up the system
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May '97

A-Open

Acorn

Compaq

Dell

Datat

Processor

Motherboard

Chipset

RAM

Video Card

Video Memory

Monitor

Sound Card

Hard Drive

CD-ROM Drive

Modem

Network card

System BIOS

Operating System

Extras

Windows Benchmarks

Desktop Publishing

Desktop Graphics

Desktop Presentation

Word Processing

Spreadsheet

Database

System 3D

Contact

Internet contact

Suggested Retail Price

Street Price

Reseller Price

Warranty

(# of years labor, parts)

Pentium II 266MHz

A-Open A66L (ATX)

486LX

64MB SDRAM

Matrox Millennium II

4MB VRAM

None

Acer AW68Pro

None

A-Open 24X

Acer 56Kbps

Acer ALN21

Award

Windows 95

US-120 floppy

Programmable

keyboard

WaveData 180W

speakers

248

122

236

211

200

N/A

N/A

(800) 475-8338

www.aopen.com

\$3,999

\$3,740

\$3,400

2L, 3P

Pentium II 266MHz

ASUS P650 (ATX)

486LX

64MB SDRAM

Matrox Millennium II

4MB VRAM

None

Sound Blaster AWE64

Quantum Fireball

Quantum Fireball

Quantum Fireball

Quantum Fireball

Quantum Fireball

Quantum Fireball

Quantum Fireball

Quantum Fireball

Quantum Fireball

Quantum Fireball

Quantum Fireball

255

101

228

220

208

N/A

N/A

1-800-985-8722

www.asus.com

\$3,899

\$3,480

N/A

2L, 2P

Pentium II 333MHz

ASUS P5L7 (ATX)

486LX

64MB SDRAM

Matrox Millennium II

4MB VRAM

None

Sound Blaster AWE64

Quantum Fireball

Quantum Fireball

Quantum Fireball

Quantum Fireball

Quantum Fireball

Quantum Fireball

Quantum Fireball

Quantum Fireball

Quantum Fireball

Quantum Fireball

Quantum Fireball

242

105

204

214

202

200

N/A

N/A

(800) 275-9606

www.compaq.com

\$4,499

\$3,415

\$3,299

3L, 3P

Pentium II 266MHz

ASUS K107-K (ATX)

486LX

64MB SDRAM

Matrox Millennium II

4MB VRAM

None

Sound Blaster AWE64

Quantum Fireball

Quantum Fireball

Quantum Fireball

Quantum Fireball

Quantum Fireball

Quantum Fireball

Quantum Fireball

Quantum Fireball

Quantum Fireball

Quantum Fireball

Quantum Fireball

248

105

204

210

200

N/A

N/A

1-800-578-1657

www.dell.com

\$3,799

\$3,415

\$3,299

2L, 2P

Pentium II 266MHz

ATI Legend I

486LX

64MB SDRAM

Matrox Millennium II

4MB VRAM

None

Sound Blaster AWE64

Master Diamond Max

Master Diamond Max

Master Diamond Max

Master Diamond Max

Master Diamond Max

Master Diamond Max

Master Diamond Max

Master Diamond Max

Master Diamond Max

Master Diamond Max

Master Diamond Max

266

180

232

233

226

N/A

N/A

(800) 840-0802

www.datat.com

\$3,699

\$3,480

\$3,290

3L, 3P

Note: All prices are street prices or suggested street prices unless otherwise indicated.

LAB TEST



ELCO	Nov 97 Express Micro	IBM PC 300SL	RTX	Nov 97 STD	Uninet
Pentium II 300MHz	Pentium II 300MHz	Pentium II 300MHz	Pentium II 300MHz	Pentium II 300MHz	Pentium II 300MHz
EPoX KPS-LA	A Open AXBF (ATX)		KTX (ATX)	ODI (ATX)	
4MBLX	4MBFX	4MBFX	4MBLX	4MBLX	4MBLX
64MB SDRAM	64MB EDO	32 MB EDO	64MB SDRAM	64MB SDRAM	64MB SDRAM
Diamond Viper V300	Matrox Millennium II	32 Troja V2	ATI AgendPower ADP	ATI Rage Pro ADP	Matrox Millennium
4MB SDRAM	8MB VRAM	32MB DRAM	8MB SDRAM	4MB SDRAM	4MB VRAM
None	None	IBM QTE 17-inch	None	None	None
Sound Blaster AWE64	SB AWE64 Gold	89 Pro compatible	SB-16	Dyn S2IM-305	Sound Blaster AWE64
Western Digital	Quantum Fireball	IBM	Maxtor DiamondMax	Quantum Fireball	Quantum Fireball
4.3GB UDMA	8.4GB UDMA	4.2GB EIDE	7.0GB UDMA	8.4GB UDMA	4.3GB UDMA
Toshiba DVD	Sigma Design DVD	16X	Creative DVD	Panasonic 24X	Panasonic 24X
USB Speaker 500bps	Creative 500bps	None	KTX 500bps	Linkday 500bps	USB Speaker 500bps
None	Katzen Cam/Stillnet	12180Data-T	None	None	Topi (TheOpen Pro)00
Award	Award	IBM	Award	Award	Award
Windows 95	Windows 95	Windows NT 4.0	Windows 95	Windows 95	Windows 95
320W Speakers	Subwoofer speakers Matrox MDD 4MB Microsoft Joystick Microsoft Intellimouse		Microsoft Intellimouse Internal Zip Drive	Multimedia speakers	100W speakers with subwoofer Seymour Sylet 1.500 internal
250	250	250	230	250	250
507	507	370	480	447	511
237	249	N/A	220	217	210
330	260	343	267	257	232
291	300	267	264	272	277
266	296	250	260	272	218
275	268	N/A	272	260	260
(305) 470-7301	(800) 470-1443 www.elco.com	1-800-485-7999 www.ibm.pc.ibm.com	(800) 940-0000 www.rtx.net.au	1-800-460-6703 www.std.net	(416) 294-2000 www.uninet.ca
\$1,000	\$3,400	\$3,630	\$4,295	\$2,799	\$4,549
\$3,499		\$3,639	\$2,795		\$4,135
\$2,016					\$2,620
3L, 3P	3L, 3P	1L, 3P	3L, 3P	3L, 3P	3L, 3P

Acrux

Suggested Retail Price: \$3,999**Reseller Price:** \$3,350**Service Depots:**

Quebec — Montreal

Ontario — Toronto

British Columbia — Vancouver

Support For Resellers:

National advertising

Two-year warranty includes parts and labor

Toll-free tech support

Editor's Notes:

The Acrux system this month features a 366MHz Pentium II processor on a new ASUS PII-97 ATX form factor motherboard with the 440LX chipset. The 64MB of high-speed SDRAM in the system will make multitasking with several applications a breeze.

The 4.3GB Quantum Fortral provides not only ample storage, but also good performance to keep data moving quickly. The popular Matrox Millennium II video card with 4MB onboard will give the system superior 2D graphics performance even in very high resolutions, making everything from games to spreadsheets fly.

As far as multimedia is concerned, you get nothing but the latest and greatest in terms of hardware, such as the Sound Blaster AWE64 and Creative Labs DVD drive. A Motorola VoiceFlash modem is also included in the system, as are a pair of 340W WaveMaster speakers and a Microsoft Natural keyboard. Although the machine encountered problems with the database portion of the benchmarks, its other scores suggest it has good overall performance.



Compucon

Suggested Retail Price: \$4,499**Reseller Authorization Requirements:**

Can be nearby to an existing authorized reseller and "vicinity" is subject to the discretion of Compucon.

Service Depots:

Alberta — Calgary

British Columbia — Richmond

Support For Resellers:

Co-op advertising

Reseller referrals with toll-free tie-in to resellers

Two-year warranty includes parts and labor

Web site includes technical information and drivers

Volume Discounts: Yes**Same Day Availability:** For authorized Compucon dealers only.**E-mail For General Use:** info@compucon.com**Editor's Notes:**

Of the 366MHz machines reviewed this month, this Compucon system offers good performance, a great mix of quality components, and a price that's not out of reach. The 366MHz processor is housed on a new ASUS PII-97 motherboard with the ATX form factor and using the latest 440LX chipset from Intel. Along with the speedy processor are 64MB of SDRAM, a Leadtek WinFast L300 video card with a whopping 8MB of SDRAM onboard, a Sound Blaster AWE64 card, a 4-GB Ultra DMA hard drive from Quantum, a Panasonic 24X CD-ROM drive, and a U.S. Robotics Smartport 56Kbps modem. A new LS-120 floppy drive is added to round out the system, along with a pair of 150-Watt speakers from Bose-Bose. Priced at \$4,499, this machine carries a three-year warranty on both parts and labor.



Ultast

Suggested Retail Price: \$4,349**Street Price:** \$4,135**Reseller Price:** \$3,638**Reseller Authorization Requirements:**

Must fill out reseller application and provide provincial reseller certificate

Service Depots:

Toronto depot to serve resellers Canada-wide

Support For Resellers:

Co-op advertising

Reseller referrals

Two-year warranty includes parts and labor

Toll-free tech support

Volume Discounts: Yes**Editor's View Of The Market:**

"There is a very good demand for this new high performance segment of the market, which allows for greater value-added profit margin especially during the living margins for lower performance

machines," says Mike Brodman, VAR sales manager at Ultast.

E-mail For General Use: info@ultast.com**Editor's Notes:**

This month's system from Ultast offers good performance, and a nice mix of components. Powered by a 366MHz processor on a 440LX motherboard, the system features 64MB of high-speed SDRAM, a Matrox Millennium video card with 4MB of VRAM onboard, a Quantum Fortral 4.3GB hard drive, a 24X CD-ROM from Panasonic, a USB 56Kbps voicefax modem, and a Syquest Sylet 1.3GB internal unit. For multimedia, there are a pair of 160W speakers and subwoofer teamed up with Creative Labs' Sound Blaster AWE64 to deliver superb sound. This machine is also network ready, with an Intel EtherExpress Pro100 network card. This was yet another machine which managed to make it all the way through the benchmarks without getting into any trouble along the way.



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Ottawa Computes! Ottawa: (613) 789-6431 Québec Micro! Montreal: (514) 943-4770

Government Computer: (613) 789-6431

STD

Suggested Retail Price: \$2,799

Service Agents:

Atlantic — Dartmouth, N.S.
 Quebec — Montreal, Quebec
 Ontario — Toronto, London, and Ottawa
 Manitoba — Winnipeg
 Saskatchewan — Regina
 Alberta — Edmonton, Calgary
 & C — Vancouver

Support For Resellers:

Co-op advertising.
 Resellers are listed on the Web site.
 Two-year warranty includes parts and labor.
 Toll-free tech support.
 Dedicated technical IDS.

Volume Discounts: Yes

Editors' Notes:

If your customers are looking for a Pentium II system that won't break the bank, look no further. This system from STD is packed with everything you need and then some. It features a 266MHz processor on a new QDI motherboard with the new 40LX chipset, 64MB of SDRAM, the latest ATI Rage Pro AGP video card with 4MB of SGRAM onboard, an Opti 931M sound card with 3D sound, a Quantum Fireball 640B hard drive with Ultra-DMA support, a Panasonic 24X CD-ROM drive and a Linkabyte 56Kbps fax modem. Software titles include 64 Components 32, and the Microsoft Plus Pack for Windows 95. This was, strangely enough, one of only two machines in the 266MHz-class which made it all the way through the benchmarks without any problems. This one is hard to pass up.



Darius

Suggested Retail Price: \$3,850

Street Price: \$3,800

Reseller Price: \$3,250

Reseller Authorization:

Must be in business for more than one year and have a full-time in-house technician.

Support For Resellers:

Co-op advertising depends on sales volume and margin.
 Reseller referrals.

Two-year warranty includes parts and labor.

Volume Discounts:

Yes, to resellers who deal with educational institutions or corporate employee purchase plans.

Demo Unit Availability:

Limited to one demo unit per reseller at five per cent less than the regular reseller cost.

E-mail: darius@star.ca

Editors' Notes:

The Darius system from TK IDM technology this month is of the 266MHz Pentium II variety, equipped with the latest QDI Legend II motherboard with the 40LX chipset and 64MB of SDRAM. The Marver Millennium II card once again makes an appearance, as does the popular Sound Blaster AWE64 card. The hard drive in this system is also a new model from Maxtor — the 430B DiamondMax with Ultra-DMA support, with an average seek time of under 10ms. Panasonic's latest CD-ROM drive is also part of this system, operating at a maximum speed of 24X. Rounding out the system is a U.S. Robotics Spanset 56Kbps v.90/fax modem with speakerphone and a pair of Yamaha MTX multimedia speakers. In the way of software, you get Corel's WordPerfect Suite 7.0 OEM, (or 8.0 once it's available OEM), or Lotus SmartSuite 97.



Performance

Pentium II 266MHz-class

Express Micro

In the 266MHz-class, the performance award for the fastest machine goes to Express Micro. With an overall score of 288 and a slew of nothing but the best components, this is one machine you'd want to take home with you.

Performance

Pentium II 266MHz-class

A-Open

The performance award for the fastest 266MHz machine was not an obvious pick. For some unknown reason, each and every 266MHz machine we tested (with the exception of STD) encountered a problem during the benchmarks, most of which were data-base related. The exception was the IBM machine which had a problem with the desktop prescription portion. Since the overall scores were not calculated due to these problems, we had to do some "practis-berating" and determine a final score based on how the machine was doing up until the problems were encountered. All that said and done, the award goes to the A-Open system for having the highest partial score.

Price/Performance

STD

The system from STD offers the best performance for the money. Priced at \$2,799, it has great components, had no problems finishing the benchmarks, and would make a fine addition to any desktop rig.

Steve Bolinda, The Bingham-Walker and Jerry Blund are CCA's Lab Test Editors. They can be reached at (416) 335-8494.

The New 'Sweet Spot' in the PC Market

by Jeff Evans



When I started going to my wife's family's cottage, I was introduced to an old camper's tent—a goosy mix of marionettes and chocolate chips called S'mores (no named because after you eat one, you'll ask for S'mores).

As late as 1993, the "sweet spot" in the Canadian PC industry (the place where retailers go to make a good profit margin) seems to be the SMORG market.

Gimme S'More SMORG, Please SMORG stands for Small and Medium Organization companies or departments with between one and 50 computers. The SMORG market space is the most rapidly growing part of the business computing market, as home-based and small business and departments proliferate and create most of the new jobs in the Canadian economy. SMORGs typically don't have an integral information technology department, but they do want the kind of high reliability networking that a traditional large enterprise has. SMORGs, therefore, are prime candidates for complete system solutions: desktop PCs, notebooks and servers, mass storage and backup, monitors, network/Internet services, insurance, leasing, security, application software, peripherals, ergonomic furniture and equipment, supplies, consulting, and warranty support. In other words, SMORGs don't just want to buy the lowest price clone PC box; the business increasingly depends on the continuous operation of the true office computer system. The more they need reliability, the more likely they are to be willing to pay a bit extra for it.

SMORG.COM



For retailers, the key is to sell "value," composed of quality, and service, competitive but not outfront pricing.

When CCA recently went to talk to leading Canadian executives from IBM, ASE, NEC, Packard Bell, HP and Compaq, they all had a remarkably consistent view of the 1996 PC market. After several years of great success in the retail PC market, where home PC prices actually rose as technology-hungry consumers drove the demand for high-powered graphics, sound, processors, hard drives and Internet services, the core part of the home PC market has finally been stuffed with product. Home PC sales are flat, and margins have become paper thin, or disappeared entirely. Some home PC makers even report a resurgence in demand for 486-class machines, to go along with bargain-priced \$200 or less entry level PC systems. The only way to sustain the low well-heeled PC buyer, it seems, is by segmenting system prices well south of the \$1,000 mark. Makers of premium home PCs, such as the NEC Ready, IBM Agave, and HP Pavilion lines, which charge higher prices and offer better margins for liquid transfer into and out of line-in integration, report respectable sales. However, the high-end home PC segment is a small and relatively limited market. In order to capture the remaining 60 per cent of households that don't have a PC, computer vendors may have to wait for even cheaper, simpler to use and more appealing home PC products than are currently available. AST Canada, for example, though it will sell its home PC product in the channel, has largely withdrawn from the



AST America Inc.

mass market PC space, at least temporarily.

All the brand name PC makers led by traditional business computing leaders like IBM and Compaq, are instead turning their sights on the SMORG market in 1996, believing that is where respectable profits can still be made. A host of new desktop, notebook and server PC products are aimed at appealing to the business user built in network management, and plug and play installation are the subjects of great R&D activity. "Total Cost of Ownership" (TCO) is a means being repeated by all the big vendors. The aim of companies such as Microsoft and Intel is to promote standards that will reduce the soft costs of business PC ownership: down time, installation, training, maintenance and technical support. With the total cost of ownership of the average PC running at \$8,000 to \$12,000 per year (with only 10 to 15 per cent of that being hardware costs), there is lots of room for improvement.



IBM Server - Watson

total cost of ownership of the average PC running at \$8,000 to \$12,000 per year (with only 10 to 15 per cent of that being hardware costs), there is lots of room for improvement.

The Price of Security

In the non-hobbyist PC space, there is an emerging value placed on a recognized brand name. For the comfort factor of qualifying for first-rate warranty support, SMORG customers are much more willing to pay something extra for a first-rate computer system. ■

Jeff Evans is Associate Editor of Canadian Computer Wholesaler and can be reached at jeff@ccwpc.com.

ANO — Back In Black

Reseller rebounds from tough times, now looking forwards

by Michele McLean

Valuestar reseller Toly Chu might be considered a study in determination and perseverance.

His company — ANO Office Automation Inc. — is expecting to see \$10 million in sales this year, and employs 300 people in 40 locations across the country. Yet, the road has been a rough one. The company has seen some tough times, but has rebounded.

ANO is a supplier of microcomputer systems, photocopiers, fax machines, technical support and training, and an authorized reseller and service provider for Canon, Compaq, IBM, Lexmark, Novell, Okidata, Panasonic, Raven, Hewlett-Packard and Motorola. The company provides connectivity solutions — from consulting to design services, engineering to installation, testing to network maintenance.

The Struggles

Last year, ANO Office Automation fell from an \$18-million success story into the doldrums of near-bankruptcy and climbed its way back to success again.

"Times may be tough but as long as you focus and put your mind to it and don't let go, it will come back," Chu said. "At the worst of times I went five to seven days without sleeping because of the stress." But, instead of quitting, Chu named the company around.

The Story

Chu founded the ANO reseller business in 1986, then started growing into the corporate market. "At the peak, we were considered one of the largest corporate resellers in western Canada." Chu said. In 1993 he was named one of the top 40 business persons under age 40 by *Business In Motion* magazine and his business was ranked the 3rd fastest growing company in Canada by *People Magazine*.

In 1994, he went public and sold all his shares of ANO to American Business Group, which became the parent company. He expanded the Vancouver-based head office

and formed franchises. He also started the Canadian Institute of Business and Technology Corp., a career training program in China.

His company was growing rapidly — in fact, too quickly — and it left the start of a downward spiral. "We expanded into locations (that) we lost control," Chu recalled. "We saw it coming, and tried to turn things around — to close locations that weren't making money. We were doing all the things that any management would do."

The career school didn't take off as expected and management and resources were being stretched thin. Then the bank pulled his line of credit. "The bank pulled the line of credit, in March 1995 and I moved some money, brought in some new partners and bought everything from the bank and we bank it from there," he said. "It sounds simple, but it's very painful."

Chu described the situation as his worst nightmare and a learning experience. "My mistake was expanding too fast without the capital. I was expending on money loaned to me. I never should have done that. If you expand on equity your bank has their hands around your neck." However, in the same breath, Chu said the bank was "very supportive" throughout the recovery process. "We worked together hand in hand," he said. "We collected money for the bank and paid them out."

Chu added that, unlike a fire sale, inventory was sold at nearly market price. "I arranged with the investor, created a new company, bought all the assets from the bank, collected all the money from the old company and paid them (the bank) off. We got them off our backs and started rebuilding from there."

Chu admitted the stress during the tough time kept him awake for a week straight. He said he devoted 24 hours a day to rebuilding his company. "I built a good reputation on



there with suppliers, as well as customers, and I didn't want to put it all down the drain."

"I arranged with an investor, created a new company, bought all the assets from the bank, collected all the money from the old company and paid (the bank) off."

David Wu, general manager with ACP Marketing Inc., has dealt with ANO since 1991 as a supplier and customer. "We lost money and we negotiated," he said. "We set up a new account and only dealt in CDD terms for about a year." Wu admitted even he is amazed with the company's speedy recovery. "It looks like Toly Chu is really a genius," he said. "He fails, but he can get up. And how he gets up I don't know."

Since the restructuring, Chu has focused mainly on small- and medium-sized businesses. (ANO recently bought a manufacturing paper business.) "We want to revolutionize the computer industry," he said. "Our approach is computers, copiers and faxes all in one. We provide full service and sales."

Chu also credits his staff for the recovery. Most of his management team has stuck by him, he said. ANO's staff of 300 staff is a considerable jump from the skeleton crew of 80 during the tough times. "There's a lot of (passive) staff morale," he said. "I couldn't let them down. They believed in me so I had to make it work." Chu looks back at the troubles not as a failure, but as the greatest learning experience in his life. "I have any words of advice for other people, it's don't depend on borrowed money and never, never quit." ■

Michele McLean is a Toronto-based journalist.



Investing The Profits

**Making Money's No Easy Job In This Industry.
How Can You Choose A Financial Planner
To Help You Make The Most Of It?**

by Douglas Gray



As an owner of a computer reselling business, you need to juggle a lot of balls to survive. For example, what do you do with the money you have left at the end of day?

Since you are going to have to rely on your own wit, savings discipline and investment success for your own retirement, you need and want to get objective professional advice. So where do you find it?

Keep in mind that anybody can call himself a financial planner, financial consultant or financial adviser. In fact, though, they could just be sales reps selling investments and other products for a commission. No formal, provincial (except for Quebec), or local laws require qualifications such as those imposed on other professions, including accountants and lawyers.

There are several ways of locating a financial planner. One of the most effective ways is to contact the Canadian Association of Financial Planners (CAFP) head office in Toronto. The toll-free number is 1-800-346-2237. All members of CAFP must have professional liability insurance.

The CAFP will give you the contact phone number for the chapter in your province. By contacting this number, you will be sent a free publication called *A Consumer Guide to Financial Planning*. You will also be sent a roster of members who have been awarded the Registered Financial Planner (RFP) designation in your province. This list shows experience, credentials, and services provided, lists any financial products sold, and states the method of payment, such as fee for service, commission, or both.

After you've decided to seek the services of a financial planner, you may have other questions: *Which professional is right for me? How do I identify a competent financial planner who can assist in conducting*

the key aspects of my financial planning life? Just as you select a doctor or lawyer, you should base your decision on a number of factors: education, qualifications, experience, integrity, ethics and reputation.

When selecting your financial planner, choose one you can work with confidently. You are asking this person to help shape your financial future and quality of life in retirement, and you are paying him or her to do so. It is your responsibility and right to fully enquire about the planner's background, numbers of years in practice, credentials, client references, and other relevant information.

Call the planner and ask for a meeting. Use this opportunity to get a sense of your compatibility and to discover exactly how the planner will work with you. Ask questions about financial planning that will give you a basis for comparison with other planners you have contacted. In short, get the information you need to feel confident that this person is right for you and your needs.

"It is your responsibility and right to fully enquire about the planner's background, numbers of years in practice, credentials, client references, and other relevant information."

• By asking the following questions, you should get the information you need to make your decision on which financial planner to hire. As you think of others, add them to your list. Keep in mind how the answers fit your personal needs.

- Does the planner offer comprehensive financial planning services and how long have they been doing so?
- What did the planner do before becoming a financial planner?
- What are the planner's areas of expertise and what services do they provide?
- What type of clientele does the planner serve? Do they have particular skill in understanding the money needs of a small business owner?

- Will the planner show you a sample financial plan that they have done for another business owner? (Obviously without disclosing confidential information or client names.)
- Does the planner give financial advice, or do they also sell financial products?
- Will the planner's advice include only generic product categories or specific product recommendations?
- Will the planner spend the time explaining their reasons for recommending a specific product and how it suits your goals, circumstances and tolerance for risk, and put it in writing?
- What follow-up does the planner do, to make sure that your financial plan is implemented? How often is it reviewed and revised?
- How is the planner compensated? Are there any potential conflicts of interest in the investments, the planner recommends?
- What professional licenses and designations has the planner earned?
- What professional liability insurance coverage does the planner carry for negligence advice and how much is that coverage? Will they confirm that is working?

Once again, it is recommended that you meet with at least three financial planners before you make your final selection. To seek effectively with a planner, you will need to reveal your personal financial information, so it's important to find someone with whom you feel completely comfortable. ¹²

Douglas Gray, LL.B. is a Vancouver-based speaker, retired lawyer, columnist and author of 13 best-selling business books, plus a real estate investment software program. His books include *The Complete Canadian Small Business Guide*, *How to Use The Canadian Home-Based Business Guide* (with McGraw-Hill's *Revenue Start and Run a Profitable Consulting Business* and *Marketing Your Product* (both by Self-Centered Press).





Note Opportunities In Document Management

by Don McLean

Document management is an emerging new frontier in IT, and more and more vendors are looking to blaze a trail in this uncharted space. With an ever-expanding need for record management in business, coupled with the rise of digital communication, document management brings reason to the chaos of correspondence, charts, clip-arts and all manner of unstructured data.

Document management, among other things, enables collaborative processes such as group sharing of information and data. It provides a means of managing records — organizing and cataloging data such as pictures or text through functions such as archiving and record management. Products boast know-it-all tools that pack such high-powered functions as version tracking, audit-log creation, search capabilities, record dissemination and capture management.

"The pure document management market is maybe US\$350 (million) or US\$450 million this year, so it's not huge," said David Yeckelson, vice-president and director of consultants Meta Group in Stamford, Conn. "But when you start extending that out and thinking of content management and what role document management products might play, the value of the problem is definitely increasing."

Document management is just scratching the surface and only beginning, to fulfill a demand that has barely been serviced, according to Lynn Kauffman, president of leading document management vendor PC DOCS Canada in Toronto. "Document management is still in its infancy," Kauffman observed. "I don't believe that one per cent of the potential market opportunity has been tapped. For realties, that is the time to jump in because it's a very, very, young market."

According to the Kauffman, systems integrators who have skill sets in vertical markets — financial, accounting, manufacturing or others of any of these — can be extremely successful. "They can take a product like ours and give it a face to be very relevant to the environment and business they know. They can have a very successful business because [document management] is largely unexplored," she said.

Yeckelson confirmed that document management business is just beginning to boom. The Internet and the need for search capabilities across this widely dispersed community is intensifying the need for document management. And document management products are increasingly better able to link with other applications — particularly groupware — increasing their value even more.

The market itself is shifting somewhat and beginning to stratify into two extremes, Yeckelson said. There are current three tiers of products. At the low end — the simplest level of function — there are products like Documenta from Lotus, Novell's GroupWise and

Microsoft's Exchange, as well as products like Document from Xerox.

These products are relatively inexpensive (usually under US\$400 per seat) and, through a Web browser front-end, provide basic document management services like check in and check out (a feature that controls end-user access to electronic and other documents), version control, search and access control. Of course the groupware product require the respective groupware infrastructures to drive them.

At the high end are products from vendors including Documentum, Novasoft and Interland, which provide more advanced replication services and workflow capabilities. "What these systems target are [environments that] deal with an extended lifecycle of very complex documents used within a particular process — data and information paths that would naturally be assembled into one finished document," Yeckelson said.

The pharmaceutical industry and the engineering community are among the list of typical users of high-end document management products.

It is between the two extremes where the market space is expanding the most, private. The products here have slightly enhanced knowledge capabilities, but not near the functionality of their high end counterparts. Players in this

space include the likes of PC DOCS and Open Text Corp.

"It turns out that not a lot of these [document management] companies have very good channels," Yedelson said. "PC DOCS actually has an excellent VAR channel. For Documentum, at the high end, deals with some major systems integrators and consultants. They may have a total of 50 partners. "Most of the companies are new enough and small enough not to have covered very large channels, however."

Any discussion of document management probably begins with PC DOCS. The product began life as tool for lawyers and today, according to Kauffman, almost every major federal government department uses it.

PC DOCS runs on SQL databases offered by such companies as Oracle, Sybase and Microsoft. It includes a full text search engine that, among other things, allows you to search for word document strings. According to Kauffman, PC DOCS' systems are extremely customizable and that's where the opportunity for resellers and integrators lies. Among the skills required for qualified PC DOCS resellers are a thorough understanding of Novell NetWare and/or Windows NT. PC DOCS' is completely dependent upon the security provided by these network operating systems. "When I look for an integrator, they need to have top quality network skills and they also need to have a background in SQL," Kauffman said. "I have a couple of resellers in [western Canada] who are absolutely cleaning up because it's very sparse (out there) in terms of document management integrators."

"Although it started in Ottawa, PC DOCS is now being rolled out everywhere and it's typically local integrators that are going to do the implementation," she added. "Our model is the channel and we rely on it heavily to help us market, sell and do the integration. In terms of integration opportunities, which is really where the money is, there's probably a 3-to-1 ratio of servers to product in IT dollars."

Waterloo, Ont.-based Open Text Corp.'s Livelink suite includes four integrated primary components — workflow, collaboration, full text search and retrieval. The product runs from a Web browser on the client side and is driven from a Web server.

"Value-added resellers sell, deliver, install and are the front line support to the end client," explained Larry Klassen, channel manager for Open Text. "Our (VAR) program has a discount structure so they can actually buy, install and make money on the product itself, in addition to the services they provide." VARs who are in the business of installing Internet and Internet services coordinate those qualified to sell and support Livelink. Open Text also offers a reseller certification program for both technical plus sales and marketing people. Like most other document management vendors, Open Text continually seeks partners. "The program is still fairly young and hasn't had a chance to mature," Klassen said. Lotus Development Corp. with its Domino/DocManager product is another serious contender by virtue of the stable Notes user base. The Lotus document management application includes check in and check out that can be accessed via Web browser or Notes clients. In addition, archiving and version-control tools and security features let the "users" of various Notes documents specify a range of access privileges. "The number one request application from customers in the existing Notes user base is document management," said Mike LeBlanc, product manager for Montreal-based Lotus Canada Ltd. "Notes and Domino are very document-centric. There's a lot of workflow and security built right into the product." LeBlanc described Domino doc as an out-of-the-box solution that includes a server piece which manages the documents themselves and a client piece that fits onto Notes and runs in the background. The product integrates with Microsoft Office and Lotus SmartSuite.

The opportunities for VARs are in the area of product customiza-

tion. "We've got a tool for VARs and business partners to go into a customer site and say, 'what you've been looking for all along we can now do for you.' I think the opportunity is really, really great," LeBlanc said. Novell's GroupWise 5.2 includes a new document management application that features workflow, check in and check out, revision and version control. The company is currently developing a product — code-named the Jefferson Project — which will bring the ability to access and publish directly to the Web, documents directly out of the document management and GroupWise systems. The product is expected to ship by year end.

According to Mike Levy, director of marketing for Novell Canada, VARs are always in short supply and in big demand. "The whole document management area is an interesting one because it's not understood by a lot of organizations and a lot of resellers," he said. "So it's an opportunity to develop a unique area of expertise."

"Right now I would say there are a relatively small number of resellers who really understand it from the consulting point of view, in terms of working with organizations and helping them put together solutions," he said.

Contact information:

Lotus — 1-800-360-0838

Novell — <http://www.novell.com> (under GroupWise)

Open Text — <http://www.opentext.com>

PC DOCS — (416) 497-7700

Don McLean is a Toronto-based journalist who specializes in high-technology reporting.

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Can The Web Be Safe?

by Scott Cunningham

As a retailer who is considering conducting sales on-line, the security awareness of the potential customer are, necessarily, your concern. What's more, getting to the point of conducting sales on-line is far from a trivial process. Some companies have invested months (and even years) of development before the first on-line sale. It's important to determine whether the preparation required to conduct sales on-line is worthwhile for your company, and whether the corporate Web site will actually process on-line sales, or simply act as a digital brochure.

Despite the increasing sophistication of on-line sales methods, a lot of companies are still opting to use their Web site as an information-only medium. If devoting a lot of time and money into creating an on-line sales site is not an option, just keeping an up-to-date database of sale items and a list of contact methods (a phone number to call, E-mail information, a physical address, for example) can be effective.

Other companies are taking a half-and-half approach. All the information necessary to conduct a sale can be collected (items to be ordered, customer name, address and phone numbers), and processed on-line through a relatively simple calculation and submission script. However, credit card numbers would not be submitted via this method. Instead, the customer would be given the option of phoning in the order (with a reference number for the processed order, perhaps), or of having a sales representative from

the company phone at a later time to confirm the order and take payment information.

More and more companies are going for the full on-line method, however.

A number of years back, the Internet pop-culture predicted an age where everything a consumer could possibly want to buy would be on-line. *Must arrive online?* Just click here. *Not glamorous?* Surf on over to this site. *A new house?* Check out the real estate listings, then surf on over to the bank. *Knock-knock is not one of the new house?* No problem!

Certainly, some steps have been taken towards realizing this kind of on-line experience, but as of yet, the ubiquitous digital shopping blitz has yet to materialize. Why? Among other reasons, the perception has been that going out a credit card number over the "Net" is so insecure that mailing cash to random addresses would be just as effective. People envision ill-willed hackers sitting in the dark, just waiting to grab credit card numbers in plaintext.

In actuality, a credit card number is probably at more risk of being copied down and used illegitimately when your card is presented at payment at a restaurant. From the time a restaurant patron hands a card to the serving person to the time the credit card slip reaches its final destination, the card number may have gone through five or more sets of hands. On the "Net," the sophistication required to grab credit card information from electronic transactions remains high, or, if making a credit card number, even when encrypted, is possibly more secure than handing a credit card to someone in a local business.

The general feeling of security in digital transactions has increased recently, due to a few mitigating factors. Encryption between browser and server has gotten a lot better and has been receiving greater attention. Microsoft's "wallet" (<http://www.microsoft.com/wallet/>) readily provides a safe place to store sensitive information on your computer while allowing access to authorized parties. "Digital cash" (<http://www.digitalcash.com/>)

com), is a primarily offline method of transferring money without having to transfer any sensitive information on-line. Methods of authenticating who is at the other end via digital keys, are also being implemented (<http://www.sarnet.com>). These things have gone a long way to assuaging the nervousness of potential on-line shoppers, but there's still a distance to go before people are as comfortable shopping on-line as they are in person.

Part of becoming a fully-fledged on-line sales site involves deciding which of these options would best serve the Web site and, more importantly, the customer. But it's important not to get so bogged down in the technical aspects of conducting on-line sales that the psychological ones are forgotten.

Despite the many security features that on-line sales methods now feature, there will probably still be that little voice in the back of the customer's head. Is this really secure? Is someone going to catch my credit card number with a packet sniffer? How do I know who's going to have access to this information after it arrives there? Should I trust them?

An easy way to deal with this concern is to offer the customer the same option as the half-and-half method: all information can be taken on-line, or the customer can opt to have a sales representative call to collect the rest of the information. Toll-free numbers should be included (if available), along with as much other contact information as possible. And, it never hurts to explain to the customer along the way exactly what security measures are in place (<http://www.dell.com/secure/secure.htm>) for example, in case they're concerned.

When selling major items over the "Net," it always pays to remember that the customer shopping at your Web site is a person, too, and may have legitimate concerns with regards to security in web sites. Although there is no way to make any transaction totally secure, you can still do a lot to ease their concerns. ☐

Scott Cunningham does Web consulting for American Authors Computer Services (<http://www.aacservices.com>) in Berkeley, Alta. He can be reached at scottc@acservices.com or

"As of yet, the ubiquitous digital shopping blitz has yet to materialize."

Dusting Off The Crystal Ball



— past there, my crystal ball gets increasingly fuzzy.

More New Processors, Motherboards And Chip Sets

Right now, the best price/performance is a traditional Pentium-style (Socket 7) motherboard you can obtain from AMD K6 CPU, which offers better performance at most ticks at a somewhat lower price than Intel's Pentium MMX line. The mini-chip, however, belongs to Intel. Randomly we're doing your customers a favour by directing them to K6-powered machines, but should also feature Intel-powered models for buyers more influenced by Intel's TV ads.

Higher-end Pentium II models have been hindered by the lack of motherboards that supported all that processor's power; the recent release of Intel's 400LK chip-set finally makes it possible to break through that bottleneck. Make sure that any Pentium-II models you're selling come with an LX-powered motherboard. Similarly, Pentium-type models sporting the i486X chip set offer some of the best future support. Among current offerings, these are the only ones that will be compatible with new power management and play and play features in Windows 95 and NT 5.0.

Expect to see as many new CPU advances in 1995 as in 1993 (a other words, lots of new models and lots of confusion), and watch for system changes to support ever-faster processors.

New Peripherals

Lots of fancy technologies were promised for 1993; none, however, have reached mass acceptance. Universal Serial Bus (USB), Digital Versatile Disc (DVD), Firewire, Accelerated Graphics Port (AGP) among others are still looming for the future. None of these are going to be main-frame technologies in the short term. The release, sometime next year, of Windows 98 and NT 5.0, however, will finally give these technologies operating sys-

tem-level support, at that time we may start to see more than a few products supporting them, and the emerging up of user demand.

For now, while you don't need to offer these technologies on the bulk of your product line, you should be able to support them as an option. System motherboards, for example, should include just allowing easy addition of USB ports. Offering and promoting such features now, however, can help differentiate your product line from the competition's models, and can get you on edge with the power users, each of whom often helps influence the buying decisions of many less technologically sophisticated consumers.

Notebooks Will Only Get Hotter

With the recent release of Intel's Pentium line of notebook processors, the market is quickly being flooded with 300MHz to 333MHz models, breaking past the 133MHz to 150MHz level where notebook performance has been stalled for the past year or so. Active matrix screens of 13 inches or more have become far more affordable, and increasingly models are able to accommodate both CD-ROM drives and floppy disk drives at the same time. The result is that notebooks are able to remain portable while replacing desktop units for many buyers — both corporate and home.

The notebook market is far different than the desktop market. A few large name brands (Toshiba, IBM, Compaq) control far more market-share, while profit margins are higher than in the wildly competitive market for desktop units. Finally, this has been become most notebooks have been purchased by big corporations for use by mobile employees, and corporations have been willing to pay higher prices to standardize on a few name-brand product lines.

As notebook models become increasing by attractive to small business and home office buyers, there will be a window of opportunity for other vendors to increase sales. Acquire rights to market notebooks coming from one of the Taiwanese manufacturers (who often manufacture models for the



by Alex Zisman

mainframe as well) to assure that your company won't get left out of this profitable and growing market.

Plan For The Longer Term

Intel, Microsoft, and

Compaq have been publishing specifications for next year's computers each summer for the past few years. Manufacturers are supposed to have their desktop models in line with these specifications by next July. Here's some of what's in the PC98 Design Guide:

- **66MHz or 90MHz internal bus** (you may find some 73MHz settings on systems with Cyrix Logic CPUs and 83MHz bus speeds on AMD-powered systems), along with support for either AGP or 64-bit PCI to improve communications between the new generation of CPUs and the rest of the system. Expect AGP on the higher-end models, 64-bit PCI on the entry-level machines.

- **Discontinued hard drives on entry-level models, SCSI on high-end machines.** No, SCSI isn't dead, and will continue to be an important technology for users wanting to add scanners, CD-ROM writers, and other optional, minority features — at least until LBA rates off.

- **Motherboards that support the new manageability features** promised for next year's crop of operating systems, such as the ability to power-down but "wake-up" when called over a network.

- **Continued support for the ISA bus** — but only for a little while. The ISA bus and older ISA peripherals are the biggest obstacles standing in the way of Plug-and-Play becoming a truly universal standard. Last year, many expected ISA support would be dropped from the PC98 spec; it hasn't happened yet, however, as too many manufacturers find it continue to offer too many products built for the 1984-generation ISA bus. Microsoft has announced that effective January 1995, it will no longer offer a Windows logo to anyone manufacturing a system that includes ISA slots. ☐

Alex Zisman is a computer journalist and author living in Vancouver. He can be reached at alex@comp.com or alex@comp.com.

Brand Power!

Web site beats a good name for sales potential, say industry leaders.

by Steven Braverman



At last, respect is bestowed on the recent Seybold Publishing conference in San Francisco. Microsoft chairman and CEO Bill Gates and Apple chairman and CEO Steve Jobs both exposed the power of brand advertising.

To Gates, with his vision of the Web lifestyle still driving *The Road Ahead*, brand identity is the most important message for a company to deliver with its Web site. Gates claims that Microsoft's Web site is now its primary marketing tool. Actually making money with the Web, admits Gates, isn't easy. "The business model has been difficult. The way you can succeed," Gates told the Seybold audience, "is to get your brand out there."

A day later, Steve Jobs also touted brand power, as he demonstrated the company's new "Think Different" ad campaign. The ads neither show nor talk about computers at all, but instead associate the Apple logo with images of Pablo Picasso, Albert Einstein, Thomas Edison, Mahatma Gandhi, John Lennon, Amelia Earhart and others: the ad characterizes as "the crazy ones, the ones who dare to think different." By associating the Apple brand with geniuses and iconic historic figures, Jobs hopes to make a bigger impact than is possible by competing MIPS and megahertz. And, hey, the bad grammar might get people talking, too.

Brand is, of course, about recognition. And, as Microsoft has shown with its Internet Explorer and Windows platform efforts, joint-venture pays off. As Seybold's vice-president for content development Craig Cline said, "One thing you have to admit about Microsoft—they never quit. They just keep working until they get it right."

Indeed, the company's latest Windows NT 3.0, demonstrated in dozens of locations around the Seybold show floor, is ample proof of that principle. Now more than five years old, NT is finally showing signs of maturity. The company has partnered with

popular, heavyweight Adobe to develop the OpenType font format that builds Type 1 and TrueType font capabilities into the OS, and Adobe has helped develop the system's PostScript printer driver. A particularly powerful demonstration of the new NT printing architecture allows the user to search for available printers using the system's "Find" command. With NT 3.0, you can specify search criteria to locate all the color printers on the network and then narrow the search to, say, the tabled-top color printer nearest you. Then, with a single click, the system installs the printer driver, downloads a color management device profile automatically and you're ready to print! Slack.

Microsoft has partnered with color experts LaserType-Hell to produce this system-wide color management system that Gates says will also extend to Internet Explorer, so that on-line purchases will result in products of the color the customer expects. And, as what is likely to be a damaging blow to Apple's dominance in publishing, Quark has agreed to port its Quark Publishing System—a long a Mac-only product—to Windows. With Adobe, Quark and most other major Mac developers already busy producing Windows versions of their product lines, the Windows-based publishing market is poised for significant growth in the over the next six to 12 months, with NT 3.0 and multiprocessor PCs spearheading Microsoft's "Windows the Platform for Publishing" push.

Gates is convinced that a "Web Lifestyle" is shaping the new consumer. Gates cites the automobile and the television as two types of lifestyles that are so ingrained in the fabric of North American culture that we don't even think about it. Gates believes that online companies are some of the best places to find people who do their banking via the Web, not at a gather information before making major purchases, and so on.

Bill Gates provided some interesting statistics during his speech, such as his observation that about half the installed base of 30 million PCs are already connected to the Net. Gates also observed that, as the cogni-

rate space, almost half the new machines sold are portables. Nevertheless, he believes that it will be small form factor mobile computing devices (currently numbering about four million) and family room TV-type devices that finally make the Web lifestyle pervasive.

Gates foresees that, within 10 years, natural language, visual user recognition, handwriting input and continuous speech input will be ubiquitous. He also wryly postulated on whether there was an equivalent to Moore's Law (in which the amount of information double in one square inch of silicon has roughly doubled yearly every year) for digging ditches. The need to dig ditches to lay fiber-optic cable, of course, is one of the major bottlenecks (along with regulatory issues, of course) to the growth of the Internet. Gates says that at best, ditch digging equipment improves at a rate of only about three to four per cent a year, a sobering thought to those of us used to the rates of growth possible in the computer industry (not the lines of which has been Microsoft, which has seen its stock value double this year).

Gates did note, however, that storage devices seem to be following a Moore's Law exponential improvement curve.

Brand Power Tips:

- Create clear type images. If you have more than one logo, pick the best one and stick with it. If your corporate logo was an in-house DIY job, consider hiring a professional designer to makeover it. A good designer will provide you with templates, Pantone call out and other items that add up to a comprehensive and memorable identity.
- Don't underestimate the power of positive association. As Steve Jobs pointed out, "Kenny rolls shoes. Nike is about athletes about sweats."

Then, test the power of brand advertising. ■

Gerrard Bennett is the Senior Editor of The Computer Paper and a former computer reader. He can be reached at gerrard@comp.ca

The Definitive 'How-To' Book For Network Design?

by Stephen Bards

Ask yourself these questions. Are you or your customers looking for the definitive 'how-to' book on network design? Does implementing an effective security plan for a network appear to be a daunting task? Are you frustrated with network problems which you are having difficulty troubleshooting? Perhaps you find topics such as load balancing, partitioning, and replication confusing. The solution to all your networking woes is Novell's *Four Principles of NDS Design*.

As the program controller for business computing programs in a full-service college with associated diploma and degree programs, I recommend Novell's *Four Principles of NDS Design*. The theoretical base is academically sound, but the book is full of useful network design tips and guidelines. In discussions with my colleagues, we believe the book is useful, even for those designing non-Novell networks. In our advisory services which we provide to industry, and in the design of our own college's wide area network, we have used the principles clearly outlined in this book.

Jeffrey Hughes and Blair Thomas have more than 18 years of networking experience as part of Novell's global troubleshooting service force. The authors are members of the select 'Novell Consulting Group' with extensive backgrounds in network design, consultation, operation, and troubleshooting. Their expert knowledge clearly shows in this comprehensive guide to networking. The concept is so useful that the book forms the basis of Novell's separate 'NetWare Design and Implementation' course which details designing an entire global network. There are numerous illustrations, diagrams, and tables explaining every point. Of particular value are the 'Consulting Experiences' highlights which describe what really works or how best to implement a particular feature.

The book goes well towards LAN administrators, system administrators, consultants, resellers, and any others who design Novell networks. There is no one technique in designing networks, but the book gives the reader all the necessary guidelines and rules for creating a system much more efficient than others. Efficiency results in a stable network, which is easily maintainable and with the maximum amount of traffic.

For the uninitiated, when laid out on paper, a network gives the appearance of branches in a tree. With Novell networks, Novell Directory Services, or NDS, maintains the 'tree' database representing users, groups and other network objects.

In Part I, 'The NDS Tree Should Represent the Network Architecture,' the design guidelines provide rules on making the tree reflect the physical network and the tree bottom model the company's organization and structure.

Part II details how to, 'Divide NDS into Functions and Objects, which Provide Scalability and Fault Tolerance.' The NDS, which forms the database linking network objects, requires distribution to protect against network failures and to maximize network traffic. The considerations for dividing the NDS into sections and then copying the sections to different servers are detailed.



Title:	Novell's Four Principles of NDS Design
Author:	Jeffrey P. Hughes and Blair W. Thomas
Publisher:	Novell Press
ISBN:	0-940-800-1
Content:	342 pages
Level:	Intermediate to Advanced
Description:	This book provides a quick guide to network design, from a small site server LAN to a global corporate network comprised of thousands of servers.
Rating:	A — Recommended for serious consultants.

Part 3 covers how to, 'Use NDS objects to establish the organizational administration, and user access.' Topics include:

- naming standards,
- organizing network objects such as users, groups, printers, and servers using containers,
- providing efficient access for users to network resources,
- setting up users for mobile users,
- establishing efficient login scripts, and,
- providing access for users of older versions of Novell software (legacy services).

The naming guidelines are universal principles and are useful in any network system. The guidelines presented will keep your network tree filled with the objects that model the organization's business structure. The result is easy network access, administration, and user problem-free security.

Imaging a global network consisting of 2,000 servers. How does the system keep track of the order of events and transactions? Which came first, the sale made in London or one in Vancouver? All of these questions come under the concept of time synchronization. That is, how can all the times in the servers be coordinated to one universal time for the entire network?

In Part IV, 'Configure New Synchronization to Support NDS Operations,' the reader learns the rules for the configuration and proper setup of time synchronization. The network administrator wants to configure the time to do the job without overriding it — without wasting limited network resources.

In summary, *Novell's Four Principles of NDS Design*, is easy to read and lays a network foundation one cannot find elsewhere. The book details the essentials into something that can be read over one weekend. There are numerous real-world examples, and tips in NDS tree design.

I highly recommend this one-of-a-kind resource for all network administrators, resellers, consultants, or students of networking. B

Stephen Bards, ISP, is a lecturer, writes, advises, and co-creator for the RADM Computing Program at Capilano College, which has won a number of international national and provincial awards. He is a Novell NDSAP and Microsoft ATP certified and can be reached at sbards@capilano.ca or via

new PRODUCTS

ASUS introduces AGP boards

ASUS Computer International has announced the P2L97 series of motherboards, along with the new 3Dextreme graphics card.

ASUS says the products will let VAs build systems to take advantage of the AGP bus, which yields speeds of 66MHz and 133MHz. The new ASUS motherboards support Pentium II processors up to 333MHz. They incorporate the Intel 440LX AGP-based chipset, and supports SDRAM, UltraDMA33, Concurrent PCI and ACPI. The motherboards include PC health-monitoring features for voltage, temperature and system monitors.

For more information, see <http://www.asus.com>, or call: (408) 424-0997.

Packard Bell PC line gears up for holidays

Packard Bell is offering a combination of leading-edge technologies in its home PCs, including Pentium II processors and DVD, but it's also featuring a new suite of software designed to make managing a home PC easier for end-users and less costly for resellers.

Packard Bell's latest PC offerings feature software titles such as CyberTutor, a user-accessible environment within Windows 95; CyberCheck, for user assistance and tutorials; CyberWares, up and up troubleshooting; Symptom Wizard for onboard or on-line problem resolution; and PC Doctor, a diagnostic program. According to Henry Porvich, vice-president of consumer marketing for Packard Bell NEC Canada: "The software titles complete the customer service experience by self-diagnosing, correcting and empowering the user to fully utilize his or her computer without making a critical mistake." Packard Bell's new Platinum and Multimedia PCs have estimated street prices ranging from \$1,699 to \$3,799, and include processors up to Pentium II 333MHz, hard drive capacities up to 7GB, 24X CD-ROM drives, and U.S. Robotics' X2 modems.

For more information, contact <http://www.packardbell.com> or <http://www.pbc-computers.com>

Fujitsu launches tiny 1.6GB hard drive

Fujitsu Computer Products of America is shipping its M2734 3.5-inch 1.6GB hard drive for mobile computers. At a list price of US\$259, the M2734 is expected to appeal to notebook PC owners looking to upgrade the storage capacity of their computers.

Fujitsu claims to have become the fastest growing hard drive supplier in the world in recent quarters. According to Doug May, vice-president of marketing for Fujitsu Computer Products of America: "Our growth in the channel contributed significantly to Fujitsu's recent rise in worldwide hard drive rankings. This is just another step in our commitment to our channel partners."

For more information, contact <http://www.fps.com>, or call: 1-800-626-4886.

Optique rolls out 19-inch and 21-inch color monitors

On Oct. 7, Optique announced a new V95 advanced perfor-
mance 19-inch color monitor and a V115 21-inch monitor, as well as a range of low-cost 17-inch and 17-inch monitors.

The recently introduced 19-inch (14-inch viewable) monitor category, which has seen earlier models coming to market from other vendors such as Hitachi, has shaken up the high-end monitor market, since a 19-inch monitor has nearly the viewable area of a 20-inch or 21-inch monitor at about half the cost. The footprint and price of 19 inch monitors is very comparable to 17-inch monitors. The V95 has a maximum display resolution of 1,600 by 1,200 pixels, and can support a very high 84Hz refresh rate at 1,280 by 1,024 resolution. With a MRPSP of \$1,699, the V95 is aimed at the serious graphics desktop publishing and Web applications users.

The V115 model is a 21-inch monitor



with a viewable display of 20 inches, list price of \$699, maximum resolution of 1,600 by 1,280 pixels, and high 70Hz refresh rate of 1,280 by 1,024 pixels, and a price of \$1,099.

Microscan has also recently announced a V713 17-inch monitor for general business and SOHO users, with a 26-run dot pitch and 1,280 by 1,024 pixel resolution, and a price of \$289. As well, the V95S 19-inch (13.8 inch viewable) monitor is a high quality and being promoted for handling wide PC systems, with 26-run dot pitch, maximum 1,280 by 1,024 resolution, and anti-glare and programmable screen modes, for \$419. Also new is the Q51 15 inch (13.7-inch viewable) monitor, which is designed to compete with and replace 14-inch monitor sales, with a larger viewable area and good resolution capability (1,024 by 768 maximum) for \$269.

For more information, contact <http://www.optique.com> or (416) 481-7088.

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- AC adapter & AA batteries included

\$529⁰⁰ (suggested retail price)

Volume discounts available



Simon Wits Is new Microsoft Canada GM

Simon Wits is the new general manager of Microsoft Canada Inc.

British-born Wits has more than 15 years experience in the computer industry, with nine years with IBM, and about six years with Microsoft U.K. Wits will report to ex-Microsoft Canada general manager Frank Clegg, who is now Microsoft's vice-president of Canada and the Central U.S. region.

CCW first made Wits' acquaintance at a joint IBM/Microsoft Canada briefing in Toronto in late September, when IBM Canada's Don Mylen indicated OS/2 would eventually no longer be promoted by IBM. Subsequently OS/2 users will be supported for the indefinite future, according to IBM, but the rest of the Intel PC operating system field is essentially now Microsoft territory.

Microsoft Canada has experienced sustained, rapid growth in the years prior to Wits' appointment. Bare estimates of Canadian sales (Microsoft eschews breaking out national portions of its sales) for 1996 are in the neighborhood of US\$250 million. This represents a doubling of Microsoft's sales in Canada over the previous three years.

Wits means to repeat that performance over the next three years, and increase sales to US\$1.5 billion. To accomplish this, he will be focusing on the Windows NT business computing market, which is growing "exponentially" as well as strongly promoting Internet Explorer 4.0, and Microsoft's business applications software.

At the Canada/SCW show in Montreal, Wits was engaged in explaining Quebec's irritation over Microsoft's notorious delay in publishing a French Canadian version of Windows 95 when that product was released in the summer of 1995. For the launch of Windows 98, Wits promised, a French version would be made available at the same time as the English version.

"The commitment is to simultaneous shipment," Wits stated. "Getting the French-Canadian product is very important." Quebec is an important part of Microsoft's plans, according to Wits, as sales there are currently increasing at an even faster rate than in the rest of Canada.

SGI Canada adds Western GM

Silicon Graphics Canada Ltd. has appointed Gary Croston as general manager, Western Canada.



Gary Croston

Croston was most recently Novell Canada Ltd.'s Western regional manager. He is based in Calgary.

The new appointment was made along with the following: Dave Wherry, general manager, marketing development; Rich Gossensmith, general manager, central Canada; Blair Nichols, general manager, Ottawa and Eastern Canada.

The addition of three regional full-focused general managers reinforces the appointment last year of Martin Poirier to general manager of Quebec, said SGI Canada.

John Roth is new CEO at Northern Telecom

(NB) — John Roth has been appointed chief executive of Northern Telecom Ltd., replacing Jean Mony, who has become president and chief executive of parent company BCE Inc.

Roth, who has worked for Nortel since 1969 and was former president of its research and development subsidiary, Bell-Northern Research Ltd., has been president of the company since February 1993, and chief operating officer since 1995. He will remain president.



John Roth, President

Informix names CFO

Informix Software Inc. has appointed Jean-Yves Desmarc, an executive vice-president and chief financial officer.

He reports to Informix chairman and CEO Bob Francovich. Desmarc's responsibilities include financial management of Informix's activity, investor relations, control policy, audit, operations, MIS and real estate.

AccountMate adds execs

AccountMate Software has hired Bob Steps — a 32-year IBM veteran, as AccountMate's vice-president of corporate development.

For the last five years, Steps has been responsible for IBM's world-wide strategy for selling AS/400s to smaller businesses.

AccountMate has also recruited Bob Ilanowski, who has been a consultant to VARs for companies such as DEC, Sun Microsystems, Promax Technologies and SNT.

CALENDAR

Calgary — Nov. 8

Session on Software

Vancouver — Nov. 8

Session on Software

Bylaw's Michael Doherty and Tanya Wilson

Costed: Square Code

Call: (503) 555-2373

Nov. 9-10

2-Business World/Canada '97

Costed: Software Maintenance Inc.

Call: (416) 754-3321

http://www.safeway.com

Nov. 7-8

Thunder Bay Computer Expo

Costed: Stream Communications

Call: 1-800-835-5676

Nov. 10-11

NetCom '97

Costed: (416) 621-4125

Nov. 9-14

Expo International

Costed: (416) 533-3633

E-mail: info@expo.org

Nov. 15-16

IBM annual Java & Object Technology Forum & Showcase

Costed: Unicom

Call: 905-739-0465

Nov. 10-11

Power-Based & Small Business Information Expo

Costed: (416) 593-8888

http://www.sipr.com/MSB/Nov11

Nov. 17-18

The CIO Summit

Costed: (416) 593-8733

Nov. 17-20

Comdex/Poll '97

Costed: Las Vegas

http://www.comdex.com

Nov. 20-21

Computerworld (Christmas) '97

Costed: Macquarie Inc.

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Feb. 10-11, 1998

The Second Annual Mobile & PDA Expo

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http://www.pda-expo.com

Do you have an upcoming event you'd like to see listed in CCM's Calendar?

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Nifty Numbers

Report from discussion

The Canadian Software Industry — A Global Player

by Leslie Arrand and Margery Leach

Canada boasts one of the most impressive indigenous software industries in the world. It is home to a number of market leaders, such as Corel, Copcon, Gase, Palcrun, Hunningford, and JetForm, to name only a few.

Beyond these established leaders, new and innovative companies continue to emerge. Together, the "who's who" and the "who's next" are helping to develop a reputation for Canada as a leading force in the global IT market, acting exemplars in such areas as desktop management and text retrieval, technology-assisted learning, geographic information systems, multimedia and graphics and Internet/intranet applications.

With Canadian companies making such a strong impression in both developing and developed countries around the world, it is well worth pausing to profile the industry. Following are just a few facts about the top 100 independent Canadian software companies, as ranked in the December 1995 database of the Canadian Software and IT professional services industries: In 1995, the total worldwide revenues of Canada's top 100 software companies was \$2.014 billion, a growth of



4.7 per cent over the previous year at \$1.923 billion; the top 100 companies employed approximately 10,000 people in Canada in 1995; 76 per cent of the top 100 companies are privately held; and over 80 per cent of the cumulative revenues of the top 100 are generated outside of Canada.

Within the top 100, the top 10 companies present a unique picture. Revenues range from \$10 million to over \$436 million. Eight of the top 10 companies are publicly traded, with foreign ownership playing a significant role. And, over the past four years, the top 10 companies have consistently generated more than 50 per cent of the total revenues of the top 100 software companies. In 1996, they were responsible for 65 per cent of total revenues.

Regardless of their approach, Canadian software companies must continue to

strive to excel through unique and focused strategies that incorporate current and future trends in the economy, target markets, technology and industry as a whole.

Leslie Arrand is a consultant and Margery Leach is a senior consultant at Brandon Group Inc., a leading international "Go to Market" consulting firm providing strategic and tactical advice to information technology organizations. (Phone: (613) 725-2955, Fax: (613) 725-6818; <http://www.brandon.com>.)

% of Installed PC Systems Equipped with Selected Peripherals

Item	Self-Employed (n=11,000)	Small Office (n=11,000)
CD-ROM drive	62%	32%
Sound board	53	17
External speakers	51	16
Tape drive	17	20
Scanner/scanning device	16	7
Removable cartridge drive	11	9
LAN card	10	22

Source: Computer magazine, 1995

Reader Poll

Last issue, we asked:

Has Apple done the right thing (after years) by deciding to not license the Mac OS 8 to CHRP-compliant clone makers?

You said:

27% Yes! 44% No! 28% I don't know

This issue:

Economists and pundits have continuously been speaking of upturns in at least some sectors of the Canadian economy that, coming out of the traditional autumn lull, are rising and moving right into the holiday buying season. We wonder what Canadian Computer Wholesaler readers have to say about this incredible competitive environment?

Our questions to you:

Given tight competition yet some indications of a strengthening economy, what are your impressions of the health of the overall IT industry this year over last?

Which most closely reflects your view?

- ☐ The industry is very strong and healthy, experiencing lots of positive growth compared to last year
- ☐ Business in the industry is much the same as last year
- ☐ With more consolidation, players are being squeezed and knocked off. This business is getting tougher

For purposes of our survey, how do you describe 1997 profitability and health of your business, compared to 1996?

- ☐ My business is growing positively, seeing new opportunities, markets and greater demand
- ☐ My business is doing more or less similar volumes of business to last year, with similar profits
- ☐ Profits have slid, due to shrinking margins and increasing competition in the market-place, compared to 1996

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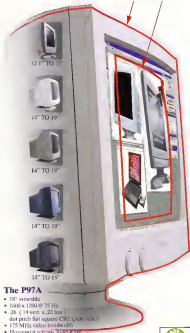


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